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ABSTRACT

In 1992, a practicum was undertaken to identify and implement a series of technology training strategies, providing faculty with the ability to improve the integration of technology into the curriculum. The setting was a multi-campus, two-year, state-supported community college with five campuses and numerous outreach centers. Objectives included the following: (1) an increase in faculty computer literacy; (2) an increase in the awareness of technology applications; (3) an increase in the utilization of technology; and (4) the creation of a replicable training model. The training program was undertaken and evaluated in two diverse training environments. Achievement of training objectives was measured through post-training self-assessment. The assessment instrument was mailed to approximately 60 faculty members who had participated in at least one technology workshop. Of these, 28 responded. Results indicated that objectives one, two, and four were clearly met and that objective three was apparently met, although this was not as clearly evidenced and supported as were the other three. During the implementation phase, a number of individual, group, and campus training strategies were selected and tested in both environments. Faculty needs were assessed, and appropriate strategies were implemented in response to them. For both environments, literacy, awareness, and utilization increased as a result of the program. Overall, the identified and implemented strategies formed the basis of a sound model training program for technology integration. The bulk of the report consists of 17 appendixes containing materials utilized at all stages of the practicum, including an instructional technology 5-year plan, needs assessment forms, curriculum materials, and evaluation instruments. Includes 13 references. (JMC)

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The Development of a Model Faculty Training Program to Promote the Integration of Technology into the Curriculum

by

Judy C. Lever

Cluster 34

A Practicum II Report presented to
the Ed.D Program in Child and Youth Studies
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Nova University

1992

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PRACTICUM APPROVAL SHEET

This practicum took place as described.

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This practicum report was submitted by Judy C. Lever under the direction of the advisor listed below. It was submitted to the Ed.D. Program in Child and Youth Studies and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

Approved:

4-26-92
Date of Final Approval of Report

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Al P. Mizell, Ed.D., Advisor

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ABSTRACT

The Development of a Model Faculty Training Program to Promote the Integration of Technology into the Curriculum. Miami, Florida., 1992: Practicum II Report, Nova University, Ed.D. Program in Child and Youth Studies. Descriptors: Teacher Education/Technology/Training/Professional Development/Computer Training/ Curriculum/Curriculum Integration/

This practicum identified and implemented a series of technology training strategies to provide faculty with the ability to improve the integration of technology into the curriculum. The practicum objectives included an increase in faculty computer literacy, an increase in the awareness of technology applications, an increase in the utilization of technology and the creation of a replicable model.

The practicum implemented these strategies in two diverse training environments and evaluated their effectiveness in each. During the implementation phase of this practicum, a selection of individual, group and campus training strategies were selected and tested in both environments. Faculty needs were assessed, appropriate strategies were implemented in response to them. Evaluation was carried out to identify the most successful strategies and to adjust the less successful ones.

The practicum met its objectives although specific strategies varied according to the different environments in which they were implemented. While a sound training program was implemented in each environment, the specifics of the program varied in accordance with the parameters of the environment. For both environments, literacy, awareness and utilization increased as a result of the program. Overall, the strategies identified and implemented formed the basis of a sound model training program for technology integration.

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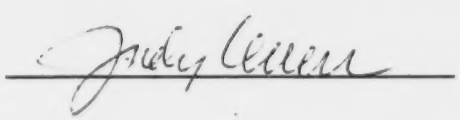
March 10, 1992 

CHAPTER 1

INTRODUCTION

A Description of the Work Setting

The setting for this practicum was a multi-campus, two-year, state-supported community college with five campuses and numerous outreach centers. The subject institution serves a metropolitan county of approximately 1.6 million people. It provides both credit and non-credit courses to over 125,000 students annually.

The institution employs approximately 4,600 full and part time faculty, administrators and staff. The specific center within the institution in which this practicum was implemented is charged with providing opportunities for professional development to all levels and classifications of employees at two of the five campuses. The center is typically assigned the responsibility of only the campus on which it is located (hereafter referred to as the primary campus); however, because technology training was unavailable at the newest of the five campuses, the center extended its services to that campus as well (hereafter referred to as the secondary campus). The secondary campus is in the process of developing its own professional development center in which the training program created herein will be a critical part.

The primary campus is the largest of the community college campuses with 385 full time faculty members. The secondary campus is two years old. It currently has 20 full time faculty members.

The facilities in which technology training occures was a computer lab provided as a grant from IBM at the primary campus and a faculty resource center created by the administration at the secondary campus. The primary campus's lab consists of 10 IBM 80386sx and 5 IBM 80286 machines networked using Novell Netware. The software available included the MicroSoft Windows-based Advanced Academic System provided by IBM as well as an abundance of contributed training packages provided by many major vendors.

The faculty resource center at the secondary campus included three IBM 80386 machines, each equipped with the Advanced Academic System. In addition, one of these three machines is outfitted to support multimedia development and another features telecommunications capability. The secondary campus also used its 25-station IBM student classroom for faculty technology training.

The target audience of this practicum was the faculty at both the primary and secondary campus. While administrators and support staff can avail themselves of the training provided, this practicum focused on technology training for the purposes of integrating technology into the curriculum, a task most likely to be accomplished through the efforts of the faculty. The practicum addressed itself to the technology training needs of faculty regardless of their current levels of computer experience.

The Writer's Work Setting and Role

The writer is the director of instructional technology at the secondary campus. Previously, this writer held the position of instructional technology coordinator at the primary campus and director of the IBM grant training center on that campus. At

both campuses, this writer was charged with providing technology training. One of the job responsibilities in the current position is the creation, coordination and execution of an effective training structure for all audiences working for the institution.

CHAPTER II

STUDY OF THE PROBLEM

Problem Description

The availability of computer technology exceeds the employees' ability to use it for all classifications of employees. Faculty do not currently use available instructional technology to improve teaching and learning. Technology applications, when used, tend to include only word processing and spreadsheets for classroom management and administrative tasks.

Problem Documentation

The existence of the problem was evidenced through a series of interviews. This writer interviewed a variety of administrators including the director of the primary campus's training center, the academic and administrative deans and the president on both the primary and secondary the campuses. Support for the existence of the problem on the primary campus was also documented in a 1989 instructional technology plan under which the center is currently operating (see Appendix A).

A needs assessment was administered to each campus to determine the specifics of the problem. These instruments (see Appendix B) further documented the problem, identified the priority target areas for training, and prioritized them for subsequent action.

Causative Analysis

Until the last three years, budget constraints and administrative decisions as to resource allocations have provided for relatively limited acquisition of technology. With a recent allocation of additional dollars to acquire technology, equipment has become more available. The administration, when prioritizing acquisitions, identified equipment for student use as the highest priority. On the primary campus, student labs have been set up at various locations and used exclusively for classes. This policy left little lab time available for training faculty. As sufficient student labs were set up, equipment dollars became available for purchasing machines for the faculty. However, until acquisition of the grant from IBM to establish a training facility, training remained sporadic. The grant was an equipment grant. It offered no model for the establishment of a training program. In the absence of any guidelines, training was begun in response to the most critical areas of need. This resulted in an emphasis on clerical training in administrative computing. While this was within the rationale of the grant, it did not provide faculty the training necessary to effectively use technology in the classroom.

On the secondary campus, a commitment to academic technology was made from the onset. Each faculty member was provided a networked computer for his or her office. A faculty resource center with more powerful, academically oriented machines was created. However, the need for training was overlooked and, therefore, no formal training structure or plan was developed to provide instruction as to how to use the available machines.

Relationship of the Problem to the Literature

Despite the fact that technology is becoming more available as a tool for teaching and learning, faculty at the subject institution were not extensively using the technology as a part of the teaching-learning process.

Glenn and Carrier (1989) suggest that the technologly available in education has increased dramatically in the last ten years. They further note that there are currently more than 1.7 million computers now in public schools. Yet only eight states require literacy for teacher certification and only fourteen even encourage computer courses for teachers (Munday, Windham and Stamper, 1991). Clearly, the emphasis has been on equipment acquisition with less regard to the training necessary to use the acquired resources.

Novak and Berger (1991) note that the results of their Computer Education Survey mailed to Michigan colleges and universities indicate that even with access to computers in their offices, most faculty do not use this resource in direct instruction. Pullman and Parsegian (1990) support this view by noting that most educators are as ill prepared to use computer applications in any capacity as they are to use technology in the classroom for instruction. Kozma and Johnston (1991) suggest that "...on any one campus the [faculty who are] pioneers [in educational uses of technology] number less than five percent of the faculty" (p. 10). Clearly, educators have not yet realized the potential of this teaching-learning tool.

There is consensus that the underutilization of technology as a tool in the educational process is widespread. Technology availability is increasing at a rate

significantly greater than its incorporation into the classroom. While some educators are using technology for management purposes such as writing tests and computing grades, relatively few are using the power of technology to teach. Most commentators on educational technology would agree that educators cannot use a tool they have not mastered themselves. Significant barriers exist to such mastery. These include lack of computer knowledge, lack of time and lack of training and help (Brady, 1991). Current inservice training practices have not provided sufficient time to master computer skills (Bitter and Yohe, 1989).

"The vast majority of teachers have experienced little or no computer training" (Glenn and Carrier, 1989, p. 7). For many educators, technology training opportunities were unavailable in the preservice teaching curriculum when they completed their undergraduate training. Educators entered education without this valuable tool in their repertoire. Training has, therefore, become a key factor in keeping faculty in touch with technology (Farrente, Hayman, Carlson and Phillips, 1988). Until this situation changes, technology will be education's most powerful but underutilized resource.

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

Goals and Expectations

The goal of the practicum was to create and execute a model training program to meet the technology training needs of faculty.

Behavioral Objectives

Four major objectives of the practicum were identified. The objectives are as follows:

1. There would be an increase in the number of faculty who are computer literate as defined by the ability to use at least two major microcomputer applications.
2. There would be an increase in faculty awareness of the application of technology resources in the classroom.
3. Faculty would increase their utilization of technology in the teaching learning process.
4. A replicable model would be created that other campuses could use to implement a technology training program.

Measurement of Objectives

The instrument that was used to measure the four objectives for faculty, staff and administrators was a self-assessment. To demonstrate increased literacy,

awareness and utilization of technology, a written questionnaire was administered to faculty at both the primary and secondary campuses. This evaluation instrument appears in Appendix C.

The assessment instrument to measure the successful dissemination of the training model was a survey instrument that was to be provided with the model to the training coordinators at the other campuses and other interested institutions. This survey appears in Appendix D. Because this practicum was implemented during a time of severe budgetary constraints, the other training centers had only recently added a technology training program component and the coordinators were at the time unable to respond to the survey. Instead, data for the survey was gathered through interviews and group discussions with the directors of the ten IBM grant training centers similar to the one located on the primary campus.

CHAPTER IV

SOLUTION STRATEGY

Discussion and Evaluation of Possible Solutions

Technology has become a key characteristic at all levels of education. Faculty are expected to function within the environment generated by the Information Age and to bring this capability to their students. Preparing faculty for technology has become and will continue to be a key issue in education (Ferrante, et al, 1988).

Brady (1991) supports this view by suggesting that the primary barriers to the integration of technology as a teaching and learning tool are the lack of support for such integration in terms of time, training and availability of equipment. While equipment is becoming more readily available as the price of technology falls, faculty will not be able to effectively use the equipment just because it is placed in their labs or offices. Instruction in technology and its effective integration into the preservice and inservice training programs for educators is critical and must be given a higher priority (Bitter and Yohe, 1989).

Educators make the critical decisions about instruction. The educator's view of technology is a critical factor in determining the degree of utilization in the classroom. If technology is to be used to enhance the teaching and learning process, educators must be encouraged to see technology as a valuable tool which they are capable of using in their efforts to meet their teaching goals and objectives (Glenn and

Carrier, 1989). Munday, Windham and Stamper (1991) suggest that only through exposure to the potential of technology as tools for learning can a broad integration begin.

Bitter and Yohe (1989) expand this view by noting that the successful integration of technology into the curriculum begins with faculty support, including immediate access to hardware and software and adequate training. Educators, like most newcomers to technological tools, need to take part in training and follow up support if they are to acquire the skills and attitudes necessary to effectively use technology in the classroom. Educational institutions are now facing important decisions about the support of educational technology. They must decide what type of training must be offered and then who should receive it (Glenn and Carrier, 1989).

Several approaches are suggested to remedy the lack of educator training in instructional technology. Kimmel (1987) suggests that the competencies for educators in terms of technology must be first identified. Once that step is completed, a training program should be designed to develop the necessary skills to achieve those competencies. Bitter and Yohe (1989) add that since faculty are unlikely to use unfamiliar technology in their curriculum, training must include three basic training steps. First, training should begin with a skills-based introduction to technology. Then, once basic skills are achieved, training relating technology to individual faculty specialization areas must be presented. Finally, advanced instruction in educational technology should be provided in order to keep the faculty aware and exposed to changes and improvements in technology that are applicable to their field of

instruction. Kimmel (1987) further notes that after training, long term support is needed to meet the needs of the teacher's individual teaching style and curriculum area.

It is relatively easy to create a technology teaching laboratory in the school setting. It is considerably more difficult to establish a program to use the equipment to effectively train educators to use technology in the teaching and learning process. There is greater diversity in opinion in the reviewed literature in terms of the most effective approach to technology training. Marchille (1990) suggests that the most effective training programs are those that are teacher-led using a workshop format. Cates (1987) suggests a mini-workshop approach with informal, cooperative-learning sessions. Spitzer (1989) suggests that there is more to training than the courses offered and that a broader approach is needed. Those involved in training faculty in the uses of technology would agree that training is a priority but there is not clear consensus as to the details of the training process. It is to this issue that this practicum addressed itself.

Description and Justification for Solution Selected

Three primary strategies were utilized to provide training to the faculty involved. These strategies were the creation and implementation of a varied-delivery workshop program, the creation and implementation of non-structured training opportunities and the development of a technology basic skills course for both faculty and students. These approaches constituted an effort to address both the time constraints on faculty members and preferences as to delivery. All strategies were

based on the analysis of the needs assessment administered to both the primary and secondary campuses (see Appendix E). This data provided a foundation for the content of the training program.

This first strategy included the development of a prioritized training plan based on the results of the needs assessment analysis. The plan provided both directed and independent learning experiences in technology. A formal schedule of workshops in computer literacy, software applications and related technology topics was distributed to the faculty. The schedule reflected their preferences and requests per their completed needs assessment. Sample schedules and workshop dissemination forms are included in Appendix F. Workshops were typically offered in two or three hour formats, over a period of one to four weeks, depending on the complexity of the material to be covered. Curriculum materials oriented to the needs of the learners were created for the most commonly requested workshops (see Appendix G). Once a schedule and materials were prepared, each workshop was presented between one and three times during implementation.

An additional component of the first strategy was the introduction of open lab hours. In addition to the formal schedule of workshops, a schedule of hours for independent learning via open lab was established at times that suited the diverse schedules of the target audience (see Appendix H). The lab equipment was made available to the faculty and knowledgeable lab monitors provided one-on-one instruction and support. Faculty members were able to stop by during lab hours

knowing that they would be able to have questions answered, preview software or get assistance with a technology problem.

At the primary institution, the workshop strategy dominated. Workshops had been used extensively for a variety of professional development efforts and faculty had come to rely on this means of professional development. The inclusion of a broad technology workshop offering was easily introduced and always well attended. Enrollment in these workshops was typically high and this strategy was successfully used. The addition of the open lab hours added the dimension of individual tutoring and attention. Open labs were equally well-attended.

The secondary campus had previously had very few workshops scheduled and the faculty had little opportunity for training. A schedule of training classes for this campus was created to provide faculty with basic literacy and computer skills and to address the special interest indicated on the needs assessment. Despite this campus's small number of faculty, turnout for structured workshops was impressive. For most workshops, a majority of the campus faculty was in attendance. This demonstrated to this writer the faculty's interest in the use of technology and in their strong motivation for professional development.

On the secondary campus, when workshops in a specific application were not offered during any given term, faculty spontaneously came to this writer to request the opportunity to sit-in on campus computer courses in lieu of workshops. During implementation of this practicum, several new one-credit, one class per week computer courses were introduced, most of which were in applications of interest to

faculty (see Appendix I). These new course offerings, their once-a-week format and the faculty's desire to learn technology, provided a new avenue for training. In all courses that were not filled, faculty members were invited to sit-in provided they were willing to make attendance for the term a commitment. Approximately five faculty members (25% of the faculty) requested seats in one or more of the application courses. Voluntary attendance in these courses result in a workshop certificate evidencing professional development just as attendance in the more traditional training workshop would. While unplanned for as a training strategy, the use of vacant seats in technology courses has proven to be an effective additional training opportunity.

In addition to the traditional 6 to 8 hour workshop format and the use of seats in existing classes, shorter mini-workshops were scheduled on both campuses. The creation and delivery of these one-hour mini-training sessions was tested at both primary and the secondary campus to bridge the gap between the traditional workshop and the totally independent open lab. The mini-workshop addressed a single technology concept. The objective of these workshops included mastery of a single topic within a piece of software, such as how to use e-mail for campus memos or how to use the column feature in the word processor. The mini-workshops were also used to demonstrate how to use a specific piece of equipment such as a modem or laser disc player. These workshops were less formal and the curriculum materials less structured (see Appendix J). They were designed to provided for the presentation and demonstration of the information followed by questions and answers. These proved

to be effective strategies for acquainting faculty with hardware or the capabilities of software. They were well received and well attended. The brevity of the workshop and the confined focus on a single topic seemed to help faculty more readily address specific needs. After a series of the mini-workshops on the secondary campus, this writer was presented with a variety of requests for additional mini-sessions in topics ranging from on-line resources to application software.

The second strategy used by this practicum during its implementation included the creation and presentation of alternative non-structured training opportunities. These were developed to broaden the concept of technology training. This alternative training strategy emphasized individual and/or departmental faculty involvement in software search and evaluation, exploration and familiarization with specific technology resources, and assistance with curriculum projects that integrate technology into the classroom. This strategy provided a model for the growth and development of learner-centered technology exploration and training. The format for this strategy varied by campus.

On the primary campus, a vehicle was already established to provide time and/or funds to faculty interested in independent efforts to improve their curriculum. An application of this second strategy was the creation of the "Technology Practicum" (see Appendix K). The practicum was developed as a means to use the curriculum development resources to encourage faculty to explore how technology could be used to enhance the teaching learning process. These practicums were practical applications of technology by faculty to their own classrooms. They served not only

to train the faculty involved but also to provide peer models for other faculty and to create useful technology-based curriculum supplements.

On the secondary campus, less discretionary funds were available. Formal opportunities similar to the practicums were not an option. For this group, the writer used two approaches. First, one-on-one discussions and demonstrations of possible technology enhancements were presented to interested faculty. After preliminary interviews with all faculty members to determine levels of interest, those most interested in using technology were provided information, catalogs and demonstration software. One-on-one instruction and demonstration of both hardware and software filled a critical need for many faculty members.

The second approach was the award of the use of a portable computer for an academic term for a faculty member interested in pursuing a specific project. The Curriculum Integration Project (see Appendix L) was created to assist interested faculty in focusing in upon a specific integration effort and to provide them the computing power necessary to accomplish the task. While all faculty have office computers, many did not have home computers. Faculty had often commented that they were not able to practice on their computers at work since there were too many meetings, student conferences and other distractions. The award of this powerful loaner for an academic term made it possible for an interested and motivated faculty member to pursue technology integration.

As a result of these two support initiatives, one faculty member applied for and received a technology grant, two others began regularly using technology for the

first time and two others are developing the methodology for requiring the use of the academic computer lab in their writing courses. For some however, there was a reluctance to even begin. These faculty members were typically without any technology skills and were reluctant to attempt to achieve them. The third strategy assisted in providing instruction for the faculty members of the secondary campus who needed to work at their own pace.

For faculty without basic computer skills or for those who wanted to reinforce their skills, an independent study technology course was developed. The independent study workshop allowed reluctant faculty members to work in the privacy of their offices and at their own speed. They were not lost in a workshop that moved at a pace suited to the more literate nor did they have to wait for a workshop more suited to their level.

The independent study workshop served an additional purpose. In discussions with the faculty, this writer isolated a common reason for not using technology in teaching their courses. When asked, most faculty expressed an interest in, minimally, assigning course work that required the use of technology, such as a word processed term paper or a computer tutorial in their subject area. When asked why they did not schedule time in the computer lab to bring their classes, there was a consensus that the faculty member could not allocate the technology training time needed by students from their own content area time. They indicated that they could not use any of the available course time to teach their students to use the technology they might want to assign. It appeared that a lack of technology entry skills on the part of the students

made it difficult for a faculty member to require any assignments that used technology. In response, the independent study workshop designed originally with faculty in mind was adapted for students as well. A one-credit, Technology Workshop course using the redesigned materials (see Appendix M) was added to the campus course offerings and all students were strongly advised to register. In the pilot offering of the Technology Workshop 150 students registered and all faculty, while not required to formally register, were provided with the course materials. This refined course was used by both faculty and students to gain basic technology skills. These skills included computer survival skills, the use of an integrated application package and competency in a variety of library and audio-visual technology such as CD-ROM searches and using a laser disc. The implementation of this independent study approach provided a basal skill level for both faculty and students. This, in turn, provided a common, acceptable ground upon which faculty could build inclusion of technology-related assignments into the curriculum.

The three strategies provided the foundation for meeting the fourth objective of this practicum. This objective included the preparation of a dissemination model for this multi-strategy training approach. All workshops and independent experiences were evaluated by the participants (see Appendix N). Each workshop was presented at least twice before evaluations were analyzed. When each strategy had been tested and evaluated twice, the data collected was reviewed and modifications were made to any aspect of the training that was perceived negatively. Once modifications were made, the final version of the program's strategies were summarized and became the

basis of a report on effective technology training strategies. Originally this report was to be disseminated to the sister campuses of this institution. However, budgetary constraints caused a hiring freeze that halted the implementation of technology training programs at the other campuses. An alternative audience for dissemination was identified. This audience was made up of experienced technology trainers, all directors of IBM training centers located in community colleges across the nation. This writer discussed the report on effective strategies during a meeting of these directors. After presentation of the report to the directors of the training centers and after comparison and contrasts with their successful strategies, this writer agreed to prepare a paper reflecting all of the director's most effective training strategies. This paper was disseminated during a presentation at a national technology conference (see Appendix O).

The solution strategies included within this practicum (see Appendix P) were selected for their appropriateness to the specific environment in which they were implemented and for their cost effectiveness. The other strategies summarized in the paper mentioned above remain objectives for this writer. When the training environments change, budgetary constraints loosen and faculty become more competent in technology, this writer will attempt additional solution strategies. The strategies chosen for this practicum were effective but limited by the parameters of the conditions on the campuses during this implementation period. It is expected that as the conditions evolve and improve, additional strategies will become feasible and appropriate.

CHAPTER V

RESULTS, DISCUSSION AND RECOMMENDATIONS

Summary of the Problem and Solution Applied

Despite the increasing availability of technology to enhance instruction, faculty typically do not use technological resources to improve the teaching learning process. This practicum addressed the need for additional faculty training in technology in an effort to improve utilization of this resource.

Results in the Achievement of Objectives

This practicum identified four specific objectives, the achievement of which was measured through post-training self-assessment. The results of the self-assessment instrument are summarized in Appendix Q. The instrument was sent to approximately 60 faculty members on both primary and secondary campuses who had participated in at least one technology workshop. Of those faculty, 28 responded. Appendix Q provides a detailed listing of the responses. The relatively small sample must be factored into the conclusions drawn herein.

The first objective was to increase the number of faculty that were computer literate as defined by the ability to use at least two major microcomputer applications. The results of the evaluation instrument indicate that the 28 respondents to the literacy self-assessment questions use more than one application. The results of the self-assessment indicate that the first objective of this practicum was met. However, it

must be noted that only 8 of the faculty completing the instrument completed the literacy self-assessment portion. It is, therefore, possible that the results are inaccurate.

The second objective of this practicum was to increase faculty awareness of the application of technology resources in the classroom. The evaluation instrument asked five questions regarding the use of technology in the classroom. The results of the assessment indicate that 18 of the 28 respondents either strongly agreed or agreed that they will use a computer to help teach. Fully 20 of the faculty strongly agreed or agreed that they would create lessons so that students will use the computer. With regard to specific applications, 17 strongly agreed or agreed that they would use multimedia, 14 indicated they would use video disc and 8 indicated they would use telecommunications. The strength of the response demonstrates faculty acceptance and awareness of technology as a teaching resource. From the responses, it can be concluded that the second objective was met.

The third objective of this practicum was for faculty to increase their utilization of technology in the teaching/learning process. Six questions on the assessment related to this objective. First, 14 of the faculty strongly agreed or agreed that they would increase the number of technology intensive assignments. Further, 22 strongly agreed or agreed that they viewed technology as a useful teaching/learning tool. When asked if technology would be used as either an administrative and/or management tool, faculty agreed or strongly agreed in 22 and 18 instances respectively. Fifteen of the faculty strongly agreed or agreed that both faculty and

student should possess and use technology skills, while 18 responded that they are more accepting of technology as a teaching tool than they were before participating in training. The evaluation supported the positive attitude of faculty toward technology as a teaching tool and their willingness to use it in the teaching/learning process. These positive indicators were further supported by a review of the log sheets of the computer support team on the secondary campus. At the time this practicum began implementation, a review of the logs indicated only one request for help in setting up hardware or software for classroom use. A review of the logs at the end of the implementation period indicate eight requests for software support, three requests for hardware support and a division request for computer lab support to facilitate student writing projects. Considering the secondary campus has only 20 full-time faculty, the number of log requests appear to be significant. The primary campus technology support system did not allow for the same type of review of request logs. That campus's technology support system is somewhat fragmented in its recording of support for academic technology. No conclusion can be drawn as to whether equally positive indicators of technology utilization might exist on that campus. However, based on the results of the instrument and the log review on the secondary campus, it appears that the third objective of this practicum has been met although this assumption is not as clearly evidenced and supported.

The final objective of this practicum was the creation of a replicable model that other campuses could use to implement a technology training program. The implementation of this practicum resulted in the creation of the paper presented at a

national conference (see Appendix O) detailing possible training strategies. The paper demonstrated an ideal training program that encompassed as many strategies as possible. This paper has been disseminated to the other campuses of this institution as well as to a number of other institutions requesting it. The paper formally presents a model program for training and clearly meets the final objective of this practicum.

Discussion and Recommendations

This practicum has attempted to implement a solution strategy to address the difficulty in encouraging faculty to integrated available technologies into the teaching/learning process. The assumption made was that at the core of the resistance to technology integration was the faculty's own lack of training and experience with the technologies they are expected to integrate. This practicum has attempted to identify and test training interventions that would enable faculty to use available technology.

Schlechty (1990) notes that educators, unlike doctors or lawyers, do not have control of their training choices. They must turn to the institutions for whom they work for opportunities to update professional skills. The responsibility for continued training for professional development is, therefore, the responsibility of the institutions that employ them. If faculty members are not using the technology tools that the institution has made available, then the institution must look inward to see why. Providing equipment does not guarantee its use. Providing training is much more likely to do so.

This practicum identified and implemented a series of training strategies. The most basic training strategy, the professional workshop, had already been the primary non-technology professional development activity on the primary campus. This practicum began implementation by building its program around this established model. The workshop strategy was applied in the two diverse subject environments. In the first large campus environment, it was and remained the dominant strategy, although others were added. In the second smaller, less established campus, it quickly became only one of several alternative training strategies. The expansion of the training approaches was a reaction to the needs of faculty that were not being addressed by the workshop alone.

Once the administrative structures to support a training program were created and in place on both campuses as a result of the implementation of this practicum, the training programs were begun. Shortly after the initial set of workshops, it became clear that other faculty technology development opportunities were apparent and yet were not answered by the workshop format. Either faculty could not allocate the time to workshops or times were inconvenient. Other faculty suggested that the workshop setting provided a compressed teaching/learning scenario that did not allow for adequate assimilation of the information. Faculty further commented that they needed very specific content related questions answered about technology teach tools. Immediately this practicum effort expanded to explore and implement alternative training strategies that would address the needs expressed by faculty.

Depending on the parameters of the specific campus, a variety of additional training strategies were selected. These included some from each of the broad field of strategies (individual, group and campus-wide) detailed in the dissemination paper that resulted from the practicum implementation (see Appendix O). The focus and methods differed at each campus in answer to that specific campus environment. This proved to be a key element of a successful faculty training model. Appropriate strategies are best determined by the factors present on a particular campus. While a number of creative and innovative strategies are possible, effective strategies are those that are selected from the broad spectrum of training interventions that work in a particular situation. Attempting to incorporate all possible strategies is an incorrect approach. Using as many diverse strategies as may be practiced in the environment specific to the institution and which match with the objectives of the institution will result in the most effective training model.

This practicum succeeded in improving skills, attitudes and interest in technology as a teaching/learning tool. It did so because the overall approach used was to assist professionals in mastering technology at their own level and in the manner in which they choose to learn it. As this practicum unfolded, this writer quickly recognized the need to assist and support in a manner dictated by the professional in need, rather than in the way that was historically appropriate or administratively convenient. During implementation, once a need was identified, the practicum's intervention strategy adjusted and expanded to provide supportive training opportunities that were not originally indicated. This flexible approach, without loss

of sight of the goal and objectives of the effort, was the single element most responsible for this practicum's success.

While the implementation period of this practicum has ended, the training effort continues to evolve. Technology is in a state of continuous flux and its application to education must change in tandem. Training programs must reflect the ever changing nature and role of technology in education. As was the case for this practicum, the key to a successful training model is flexibility. Training administrators must frequently assess needs, review appropriate strategies and find alternative ways to deliver the changing and powerful educational tools into the hands of the people who need them. Technology training programs must be fluid and responsive to the professionals they serve. Technology training programs must focus on the application of the technology to the teaching/learning process, never on the technology itself. Training programs must use every strategy possible to make the technology as comfortable and natural as a chalkboard or overhead projector.

The training programs at both campuses begun as a result of this practicum will continue to evolve in response to faculty needs. A needs assessment is scheduled for the beginning of each academic year. This will provide the training program with data from new personnel as well as reflect the changing interests of current faculty. Innovation in training strategies will remain a top priority at both campuses. Further, insights gained from this faculty-oriented practicum will be applied to the training programs for administrators and support personnel in an effort to improve that segment's professional development in technology.

Dissemination of much of what has been gained from this practicum's implementation was begun with the presentation of the strategies paper included herein at a national conference for two-year colleges. When presented, the strategies identified were well received by the higher education faculty and administrators in attendance. The interest expressed was sufficient to cause this writer to expand and submit the paper to appropriate journals. It is currently being reviewed for publication. This writer will also submit the results of the implementation of this practicum as a proposal for presentation at appropriate upcoming conferences.

This practicum successfully addressed the need for additional faculty training in technology in an effort to improve utilization of this resource. The implementation of the solution strategies is on-going and does not end with this report. It can be concluded that to this point, implementation has positively affected faculty attitude, skill and interest in teaching with technology. Ultimately, this will mean that the students these faculty reach will benefit. The continued evolution of the training programs described herein remains a priority for this writer. Dissemination of any further results of interest and use to colleagues will continue through presentations and journal articles.

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APPENDIX A

INSTRUCTIONAL TECHNOLOGY PLAN

CENTER FOR TEACHING AND LEARNING

SOUTH CAMPUS
CTL TRAILER - Ext. 7-2366

The Center for Teaching and Learning exists to provide the faculty, staff and administrators of South Campus with a comprehensive resource for professional development and performance excellence.

A Center Advisory Committee is comprised of the Campus Vice President, the Faculty Senate President, the Support Staff Council President, the Deans and the Chair of the Administrative Training Subcommittee. This committee has three subcommittees:

Academic Affairs Subcommittee: Chaired by Dean Tom McKitterick; members include Ernesto Valdes, Ken Hauser, Chris Rogers, Kip Irvine, Susan Byrd, Greg Ballinger, Ed Boles and Anthony Pappas.

Administrative Training Subcommittee: Chaired by Dr. Jim Harvey; members include Vanya Albury, Bob Zelinski, Vince Fragano, Alexandria Holloway, Carol Patterson-Ramsey, Bob Pope, Marta Junco-Ivern and Norm Seavers.

Support Staff Training Subcommittee: Chaired by Dean Herb Robinson; members include Marty Allen, Peggy Anderson, Gina Carey, Millie Castor, Chris Chulamanis, Sara Diaz, Kim Duran, Pat Lindsay, Albert McDuffie, Maggie Varella.

The staff of the Center includes: Marie Nock, Director; Roberta Stokes, Instructional Technology Coordinator; Kristi Lozano and Judy Lever, Instructional Designer/Instructional Technology Coordinator; Judy Schmelzer, Department Secretary.

Goals for 1990-91:

Teaching/Learning Project:

1. To provide orientation experiences for new faculty, part time faculty and administrators new to their roles.

2. To provide training and support on identified areas of the faculty advancement process.

3. To provide information, coordination and training on the Effective Teaching and Learning course and/or workshops.

4. To provide information, coordination and/or training on the Classroom Research course and/or workshops.

5. To prepare New Faculty Selection Committees to assume their roles.

6. To support the integration of technology into the classroom by providing training, consultation and support in the use of computers, videodiscs, interactive video and other instructional media in the teaching/learning process.

7 . To implement recommended training from the Teaching/Learning Project for administrators.

Campus SPD Project:

8. To enhance the effectiveness of faculty, staff & administrators in dealing with students, faculty and staff.

9. To provide resources and training that support the New Directions Project.

10. To support and promote credit & non-credit program development efforts.

11. To provide leadership resources and coordination for the Campus' comprehensive effort for faculty, staff and program development.

12. To initiate program development efforts.

CENTER FOR TEACHING AND LEARNING

Contact: Marie Nock
Room: CTL Trailer
Phone: 72258

The Center for Teaching and Learning is a comprehensive resource for professional development and performance excellence. The Center is a place where any employee with an idea can receive support, guidance and access to a network of internal consultants who can help the employee achieve his/her professional goals. In addition the Center will help channel these interests and ideas to achieve campus goals and meet student needs.

Services available to faculty, staff and administrators

- WORKSHOPS/SEMINARS
  Technology-Based
  - Training in how to use a variety of software programs: word processing, database, spreadsheet, desktop publishing, multimedia and presentation graphics.

  Professional Development
  - Training, education and development programs based on identified needs to support individuals in their college roles.

  Teaching/Learning Project
  - Providing all training recommended through Teaching/Learning Project.
- RESOURCE INFORMATION
  - Resource materials such as books; magazines; and catalogs for ordering hardware, software, and supplies.
  - Information about educational conferences and workshops
  - CTL Newsletter
- TRAVEL
  - Funding through Divisional Travel Committees for out-of-country travel.
  - In-county travel
- INSTRUCTIONAL DESIGN AND PROGRAMMING SERVICES TO DEVELOP INTERACTIVE MEDIA
  - Computer-assisted instruction (CAI)
  - Interactive videodisc programs - original videodisc and repurposed materials
  - Consultation on CAP Projects
- UNIVERSITY OF MIAMI DOCTORAL PROGRAM
  - Applications
  - Curriculum guides
  - Schedule for classes offered at MDCC-South
  - Registration for courses required for continuing contract
- CONSULTATION
  - Assistance in generating ideas for grants
  - Classroom feedback
  - Management and organization development
  - Teaching and learning strategies
  - Performance portfolios
  - Program development
- TECHNOLOGY PRACTICUMS

• INSTRUCTIONAL TECHNOLOGY

- Assistance in using a range of computer software:
  - *Presentation tools—to prepare documents, transparencies, slides, or "slide shows" using a computer*
  - *Graphics packages*
  - *Desktop publishing tools*
  - *Authoring programs to develop your own computer lessons for students*
  - *Gradebook programs*
  - *Test bank programs*
- Electronic Classrooms (Macintosh and IBM)
- Instructional Technology Center
  - *Training in DOS based technologies to enhance education*
  - *Professional resource lab for hardware and software consultation and exploration*
- Lab equipment for preview and development purposes:
  - *Computers (DOS Compatible, Macintosh, and Apple)*
  - *Overhead projection devices which connect to computers*
  - *Videodisc players (with remote controls)*
  - *Scanners (to scan pictures or text into computer files)*
  - *Color printers (which can be used to create color transparencies for the overhead projector*
  - *Laser printers (to prepare high quality documents)*
- Multimedia Resource Center
  - *Training for schools, colleges, universities, business, industry and government in multimedia development*

APPENDIX B

TECHNOLOGY NEEDS ASSESSMENTS

CENTER FOR TEACHING AND LEARNING

NEEDS ASSESSMENT

IBM/Compatible Training

Name _____

Department_____

___District ___South ___Homestead

Hardware

1. In my office/department, I have the following equipment available for my use (check all that apply):

   ____IBM ____Zenith ____AT&T
   ____Other (please specify type:_____)

2. For each machine you have available, what types of disk drives are installed (check all that apply)?:

   MACHINE BRAND _____
   ___5 1/4" double density floppy drive
   ___5 1/4" high density floppy drive
   ___3 1/2" double density floppy drive
   ___3 1/2" high density floppy drive
   ___One floppy drive but I haven't any idea what size or type
   ___Two floppy drives but I still don't know the size or type
   ___A hard disk drive

   MACHINE BRAND _____
   ___5 1/4" double density floppy drive
   ___5 1/4" high density floppy drive
   ___3 1/2" double density floppy drive
   ___3 1/2" high density floppy drive
   ___One floppy drive but I haven't any idea what size or type
   ___Two floppy drives but I still don't know the size or type
   ___A hard disk drive

3. Optional Information: If you happen to know it, please check any of the following specifications for each machine you have available:

MACHINE BRAND _____

Amount of RAM:
____ 512 K ___640 K ___1 Meg or more

Type of Microprocessor:
____ 8086/8088 ___80286 ___80386

Hard Drive Capacity:
____ 20 Meg ___40 Meg ___50 Meg or more
____ Other (please indicate amount of space: _____)

MACHINE BRAND _____

Amount of RAM:
____ 512 K ___640 K ___1 Meg or more

Type of Microprocessor:
____ 8086/8088 ___80286 ___80386

Hard Drive Capacity:
____ 20 Meg ___40 Meg ___50 Meg or more
____ Other (please indicate amount of space: _____)

4. What type of additional equipment do you have available? (check all that apply)

____Dot Matrix Printer ____Laser Printer
____Modem ____LCD Display Palette
____Video Disc Player ____Scanner
____Mouse ____Track Ball
____Other (please specify:_____)

5. Please note anything about the hardware you have available that you feel may be of help in preparing a training session for you:

6. I have used the following types of software: (check all that apply)

____Word Processor
____Data Base
____Draw/Graphics
____Desktop Publishing
____Electronic Spreadsheet
____Telecommunications
____Presentation Graphics
____Educational Software

7. Of the software packages and miscellaneous workshop topics listed below, please identify the ten of most interest to you. Rank them in priority order using *1* for the software/workshop of greatest interest and *10* for the least interesting. If you don't find a piece of software or workshop topic listed here that you would like to learn, add it in at the bottom in the space provided and include it in your ranking. Attached to this assessment you will find a brief explanation of the software packages or workshop topics listed. Please remove this attachment before returning this assessment. It may be useful as a reference when you choose the workshops you want to attend.

AUTHORING PACKAGES:
____ Toolbook

GRAPHICS/PRESENTATION PACKAGES:
____ Arts and Letters
____ Harvard Graphics
____ Draw Perfect

DATA BASE MANAGEMENT SYSTEMS:
____ dBase III Plus or IV
____ PC File
____ DataEase

OPERATING ENVIRONMENTS:
____ DOS 3.x or 4.0
____ Windows 3.0

SPREADSHEETS:
____ Lotus 123
____ Excel for Windows

TELECOMMUNICATIONS:
____ Procomm

WORD PROCESSORS:
____ Word Perfect
____ Word for Windows

____ Microsoft Word
____ Word Processing Advanced Features

MISC. WORKSHOPS:

____ Introduction to Computers
____ Computing Made Easy
____ Introduction to Networks
____ Introduction to Telecommunications
____ Novell System Administration
____ Teaching with Technology
____ Technology How To's: Using A Laser Printer
____ Technology How To's: Using A Scanner
____ Technology How To's: Using On-Line Resources

WORKSHOPS YOU WOULD LIKE TO SEE OFFERED:

____ _____
____ _____
____ _____
____ _____

8. Please indicate the workshops you have taken or the reason(s) you have not taken any.

____ I have taken workshops in _____
_____
_____
_____

____ I do not have enough free time to take workshops.

____ I have not been interested in the workshops offered.

____ The offered workshops have not been relevant to my work.

____ I do not have access to a computer so there was no point in taking workshops.

____ The times the workshops have been offered were too inconvenient.

____ Other:_____
_____
_____
_____

9. Using the definitions below, check the one that best describes your computer level.

____ *Computer Awareness:* I am aware of the potential uses of technology but don't currently use it.

____ *Computer Literate:* I am capable of using computer technology for some aspect of my work.

____ *Computer Applications User:* I can integrate technology in the instructional process or in administrative tasks.

____ *Program Author:* I can modify software or write custom software for use in my class or work.

10. What days/times would be best for you to attend workshops?

If the ITC lab was made available for your use to work independently with the software of your choice:

a. Would you use this resource: Y N

b. If YES, what days/times would be most convenient for you?

Needs Assessment

Homestead Campus 40

Name:_____ Dept:_____Ext:_____

Please circle whichever describes your current computer skill level:

Non-User Know just a little about computers. Rarely use one personally or in instruction.

Computer Aware Have occasionally used a machine. Use it infrequently; prefer other methods.

Computer User Frequently use the computer personally and for work.

Which types of hardware and/or software have you used? Check all that apply.

___	IBM or Compatible	___	Spreadsheet	___	Other
___	Apple II/IIGS	___	Data Base	Specify_____	
___	Mac	___	Telecommunications	_____	
___	DOS	___	Classroom Management	_____	
___	Word Processor	___	Instructional Software	_____	

Of the above software, which have you used in class to instruct students?

Based on the input I have received thus far, I have developed a tentative list of workshops that should help you increase your use of technology personally and instructionally. Please number the ones in which you are most interested from 1 to 10 in the order of their importance to you (1 being the most important and 10 being the least).

___	Word Perfect	___	Telecommunications/Distance Education
___	Advanced Word Perfect	___	Introduction to FIRN
___	Draw Perfect	___	Using DOS Commands
___	Office Works	___	Windows 3.0
___	Network Basics	___	ToolBook (Program that enables you to
___	Harvard Graphics		author your own instructional Software)
___	Lotus 123	___	dBase III + / dBase IV
___	Word for Windows	___	Excel for Windows
___	Using Video Discs	___	Using On-Line Resources
	in Instruction		in your Classroom
___	Mini Hardware Workshops:	__ Printer	__ Mouse ___Hard Drive
___	Introduction to Works for CGS 2920: Suggestions for Curriculum Integration		
___	Other _____		
___	Other_____		

Please use the back of this sheet to explain what you feel you need to help you use technology.

APPENDIX C

EVALUATION INSTRUMENT

Technology Workshop Feedback

In the continuing effort to provide you with the technology training you need, we need to know how those of us responsible for technology training are doing. Please respond to the following and return to Judy Lever, Homestead Campus.

_____ 1. During the current year, how many technology workshops have you taken?
_____ 2. Are you involved in an individual or departmental technology project?
_____ 3. Rate yourself in terms of your computer literacy (N for non-user, A if you use some applications, C if you use the computer regularly in your work, E for experienced user)
_____ Before taking workshops
_____ After taking workshops

For the remaining questions, please respond with:

1 - Strongly Agree 2 - Agree 3 - No opinion 4 - Disagree 5 - Strongly Disagree

Staff and Administrators:

As a result of my workshops experiences, I feel that:

_____ 4. I have increased my computer literacy as a result of the workshops.
_____ 5. I will try new software applications when they are made available.
_____ 6. I will search for new software applications to try.
_____ 7. I will use the computer for administrative purposes.
_____ 8. I will use the computer to help me make presentations.
_____ 9. I will use the computer more often in my daily work.

Faculty:

As a result of my workshop experiences, I feel that:

_____ 10. I will use the computer in my classroom to help me teach.
_____ 11. I will create lessons so that the students will use the computer.
_____ 12. I will explore the uses of multimedia for my classes.
_____ 13. I will explore the educational application of and try to use a video disc in my classes.
_____ 14. I will explore the educational application of and try to use telecommunications in my classes.
_____ 15. I will increase assignments requiring the use of student labs in teaching my courses.
_____ 16. Technology is a useful tool in the teaching-learning process.
_____ 17. Both faculty and students should possess and use technology skills.
_____ 18. I will use the computer for administrative tasks.
_____ 19. I will use the computer for classroom management tasks (grade rolls and/or test banks).
_____ 20. I am more accepting of technology as a teaching tool

On the back of this sheet, please respond to the following questions:

Staff and Administration:

Have the workshops you attended changed your perceptions about using technology in your work? If so, how?

Faculty:

What role do you see technology playing in the presentation of your classes over the next year?

What do you see as the greatest contribution that technology can make in assisting you in teaching your subject?

What are the greatest obstacles to your use of technology in the teaching learning process?

APPENDIX D

DISSEMINATION SURVEY

Training Model Assessment

We have shared our training model and results with you. Our model is constantly being adapted and improved. Your comments would be extremely helpful in that process. We would appreciate your taking the time to complete this survey and return it to us in the envelope provided.

_____ 1. Do you currently have a training facility? (Y or N)

_____ 2. How many people are employed full time in the facility?

3. How many have been trained over the last year in your facility?

_____ Staff

_____ Administrators

_____ Faculty

_____ 4. How many computers are located in your facility?

5. Please rank the following types of workshops from most frequent (1) to least frequent (10)

_____ Word Processing

_____ Spreadsheets

_____ Data Base

_____ Integrated Package

_____ Curriculum Specific Software

_____ Introduction to Computers

_____ Operating Systems/Environments

_____ Using Networks

_____ Software Search and Evaluation

_____ Multimedia

In the spaces below, please respond to the questions:

Does this training model have application in your environment? Why or why not?

What aspects of this model are the

Most useful?

Least useful?

When comparing this model to your training effort, in what way(s) does it differ and in what way(s) does it differ?

Would you be interested in exchanging training materials? If so, in what areas to you have materials available to share? Please note your name and mailing address if you would like to share materials.

APPENDIX E

NEEDS ASSESSMENT RESULTS

Primary Campus

Needs Assessment Results

Hardware:

Responses to available computing equipment:

44 IBM 7 Zenith 1 ATT

Responses to available peripherals:

45 Dot Matrix
18 Modem
2 Video Disc Player
25 Mouse
31 Laser Printer
1 Display Palette
8 Scanner
2 Trackball

Software:

Number of Responses Ranking Workshops as the Top Five Priorities

Workshop Topic	1st	2nd	3rd	4th	5th
ToolBook	8	4	1	2	5
Arts and Letters	3	6	1	2	0
Harvard Graphics	3	1	2	1	3
Draw Perfect	1	4	5	2	2
dBase	2	2	2	3	1
PC File	0	1	2	0	1
DataEase	2	1	0	0	0
DOS	3	5	2	4	2
Windows	8	4	4	1	1
Lotus 123	2	1	3	3	3
Excel	1	1	2	0	0
Procomm	0	1	1	2	1
Word Perfect	1	1	2	4	3

Word for Windows	1	3	1	3	2
Word	0	0	1	0	1
Advanced Features of Word Processing	3	1	2	0	1
Introduction to Computers	1	0	0	0	1
Computing Made Easy	2	1	0	0	1
Introduction to Networks	2	5	0	3	1
Introduction to Telecommunications	1	2	4	0	1
Novell System Administration	6	0	1	1	0
Teaching With Technology	0	0	1	0	1
How To's: Laser Printer	0	4	2	3	1
How To's: Scanner	0	1	5	1	3
How To's: On-Line Resources	1	1	1	0	0

Self Assessment of Current Computer Literacy Level

4 Computer Aware 21 Literate 18 Application User 10 Programmer

Reasons for Not Participating in Workshops

5 Not enough free time
1 Not interested in the type of workshops offered
1 Workshops offered not relevant to work
1 No access to computer
13 Times workshops were scheduled inconvenient

Secondary Campus
Needs Assessment Results

0	*Non-User*	Know just a little about computers.
6	*Computer Aware*	Have occasionally used a machine.
12	*Computer User*	Frequently use the computer personally and for work.
2	*No Response*	

Which types of hardware and/or software have you used? Check all that apply.

16	IBM or Compatible	8	Spreadsheet
7	Apple II/IIGS	6	Data Base
8	Mac	4	Telecommunications
8	DOS	3	Classroom Management
13	Word Processor	5	Instructional Software

Number of Respondents identifying the application as one of the top three/ten priorities:

Application	Ranked No. 1	Ranked No. 2	Ranked No. 3	Ranked in Top 10
Word Perfect	7	2	0	11
Advanced Word Perfect	0	7	2	11
Draw Perfect	1	0	3	8
Office Works	0	0	5	8
Network Basics	0	0	0	3
Harvard Graphics	0	0	0	4
Lotus 123	0	2	0	8
Word for Windows	0	0	0	4
Using Video Discs	1	0	0	5
Hardware Workshop	0	0	2	8
Telecommunications	0	1	2	10
Introduction to FIRN	1	0	0	8
DOS Commands	3	1	1	10
Windows 3.0	0	1	1	6

Application	Ranked No. 1	Ranked No. 2	Ranked No. 3	Ranked in Top 10
ToolBook	0	0	3	7
dBase	0	0	0	4
Excel for Windows	0	0	0	2
On-Line Resources	0	2	1	7
MicroSoft Works	0	0	0	2

APPENDIX F

SAMPLE WORKSHOP SCHEDULE AND REGISTRATION

September 15, 1991

TO: South Campus Faculty (Full and Part-Time),
Staff and Administrators
District on South Faculty (Full and Part-Time),
Staff and Administrators
Homestead Campus Faculty (Full and Part-Time),
Staff and Administrators

FROM: Center for Teaching and Learning

SUBJECT: ***Computing Basics and DOS 4.0***
Mondays, 1:30-3:30 P.M.
October 7, 14, and 21
Room 2134

Computing Basics and DOS introduces microcomputing basics and provides instruction in the use of DOS commands. Topics include understanding hardware and software, basic DOS commands and advanced DOS commands for hard disk users.

This workshop will give you the skills you need to effectively use your DOS based microcomputer.

If you would like to participate, complete the form below and return to the Center for Teaching and Learning by **Thursday**

Computing Basics and DOS
Mondays, 1:30-3:30 P.M.
October 7, 14, and 21
Room 2134

Name:_____ Phone:_____ Room:_____

Department:_____ Faculty:___Staff:___Admin:___
Full Time:____ Part Time:____

If you are a staff employee, please get authorization from your supervisor.

_____
Supervisor's Signature

Output Update

October 16, 1991 From your Tech Team

New Computers:

We will be distributing new computers to all of the new faculty during this week and next week. These are TEMPORARY machines until your new ones arrive! We found and/or borrowed enough computers now to install one, as a temporary measure, in each of the new faculty's offices to make word processing more accessible to everyone. Unfortunately, they are not equipped with the internal card needed to attach them to the network. Sorry!

Each of the machines has an internal hard drive. We will install Word Perfect on each machine so that you can at least handle your word processing in your own offices. You will need to save your documents to a floppy disk and take the disk to a networked machine (such as the one in the resource room) to print them out. I know this remains an inconvenience but I hope it will be somewhat better than what you've had to work with so far. We expect the new machines soon! Each of them will be equipped with both a hard drive and a network card. As soon as they are in, we will replace these loaners and get you on the network.

Typewriter Recall:

We are trying to find a few people willing to give up a few of the typewriters that were checked out around campus. In order to make it easier for all faculty to fill in that occasional form or two, we'd like to locate one in the resource room. We would also like to return a couple to the lab for use by the independent study students taking keyboarding. If you would be willing to part with one, please let us know!

Thanks Everyone!

Thanks to one and all for your responses to the needs assessment. I appreciate your efforts and interest. I will try to develop a training program that will meet everyone's needs during this academic year. Its been a busy time getting everything together this first term but I should be able to begin training this month. The needs indicated in the assessment are diverse so it will take a little time to respond to all of them but we will do everything possible to give you the workshops your need.

Workshop Schedule:

Speaking of workshops, on the back of this sheet, you'll find a workshop schedule for the remainder of the Fall term. You'll notice some workshops in telecommunications. As you know, part of the Homestead Campus educational plan is the development of a computer-based distance education program. Telecommunications is the foundation of this program.

We will even have some technology guests visiting our campus to conduct workshops for you. They will be sharing information about free and inexpensive technology resources that will be available to all of us through our network and/or home and office computers. We'd really appreciate a good turnout for our visitors.

If the workshop you requested is not yet on the schedule, you will see it in the winter line up. If you need a crash course, please see me. Either Hector or I will work with you and provide you materials to help you out until the workshop can be presented.

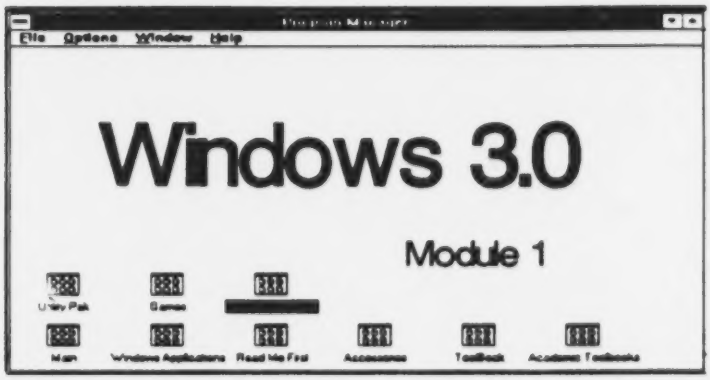
Workshop Schedule

When	Where	What
Tuesday, 10/22 2:00 - 3:00 PM	Resource Room	*Network Orientation* For new faculty/staff or anyone interested in a brief review of logging in, printing and using e-mail
Tuesday 11/5 2:00 - 3:30 PM	Computer Lab	*Telecommunications Primer* An overview of how it works, what it can do for you, and how we can use it on our campus
Tuesday 11/12 2:00 - 3:30	Computer Lab	*Prodigy Demonstration* Our South Florida Prodigy rep will demonstrate this inexpensive on-line service. Free start-up kits will be distributed. We are considering subscribing to it. Come by and see if it will be useful to you!
Monday 11/18 2:00 - 4:00	Computer Lab	*FIRN Demonstration* Jeannine Burgess, our Florida Information Resource Network technician will show us the many on-line services provided FREE though FIRN. We can all sign up and use these resources from the campus computers!
Tuesday 12/3 2:00 - 4:00	Computer Lab	*Word Perfect Topics* Answers to some of your pressing Word Perfect Questions and helpful hints for some of WP's nifty features
Tuesday 12/10 2:00 - 4:00	Computer Lab	*Introduction to Draw Perfect* Want to add graphics to documents or make signs or transparency masters? Draw Perfect is now available on the network. Come see how it works and what it can do!

APPENDIX G

SAMPLE CURRICULUM MATERIALS

Miami Dade Community College
South Campus
Instructional Technology Center



Written and Illustrated by

Judy Lever
Center for Teaching and Learning

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Module 1

Windows Basics

Upon completion of this module, you will be able to:

1. Describe the Windows environment as it compares to DOS
2. Identify the components of the Windows operating environment and explain their function
3. Use the mouse to access menus, arrange the desktop, and issue commands
4. Describe the purpose of each of the Windows Managers
5. Use the Program Manager to effectively organize and run applications

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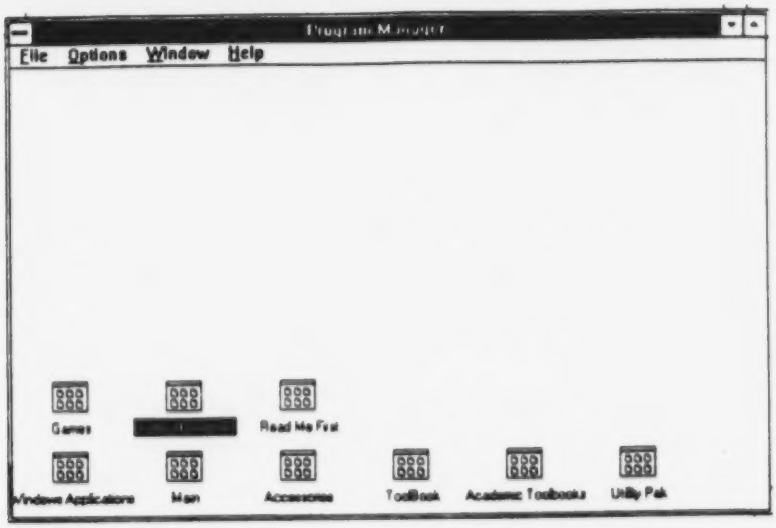
Windows 3.0: A new way to work with DOS



- A graphical environment that makes it faster and easier to use your computer
- You can run more than one application at a time and move back and forth between them
- You can transfer data between applications without extra translations
- You can manage files and printer functions more efficiently

Notes:

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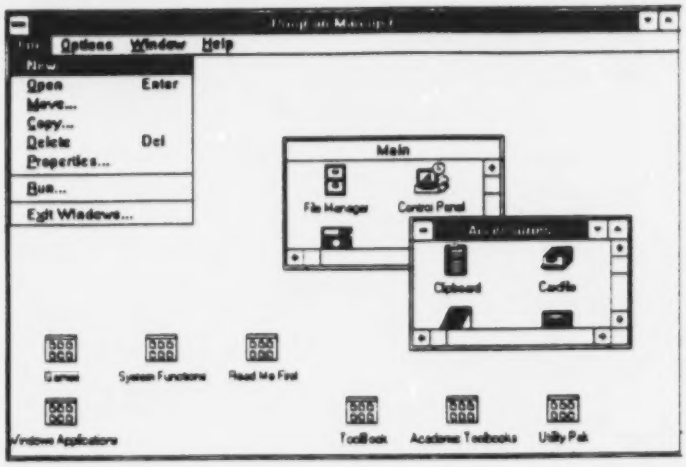
Windows Overview: The Environment



- *The Desktop* -- Your computer screen is an electronic desktop
- *A Window* -- A rectangular area that displays your applications and your work
- *Icon* -- When you shrink a window to make room on the desktop, the window is represented by a small graphic or icon
- *The Menus* -- A listing of available Windows commands
- *The Pointer* -- A small arrow displayed in a window that is controlled by movement on the mouse. It lets you issue commands just by pointing to them and pressing the mouse button

Notes:

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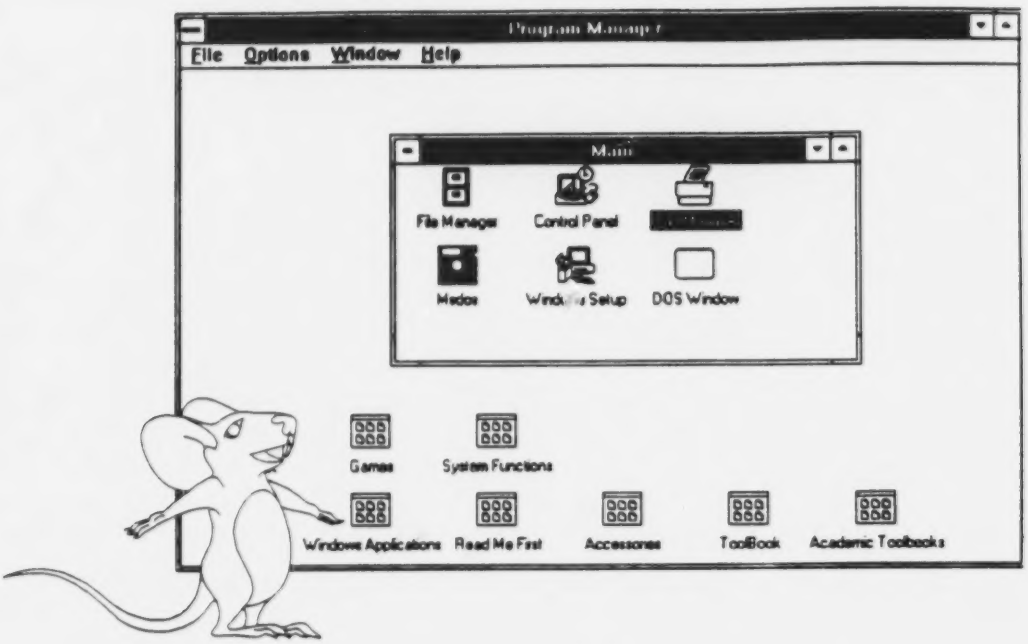
Windows Overview: Working With Windows



- *Using a Mouse*
  - ✓ Keep the mouse flat on the desk
  - ✓ To click, press the mouse button down and release it quickly
  - ✓ To drag, hold the mouse button down and move the mouse
  - ✓ To double click, click two times in rapid succession

- *Windows Basics*
  - ✓ Menu Bar: Click to open a menu, click again to select an option
  - ✓ Control-Menu Bar: Double click to close a window
  - ✓ Minimize: Shrink a window to an icon
  - ✓ Maximize: Enlarge a window
  - ✓ Scroll Arrow: Click for more information in a window
  - ✓ Border: Drag to change a window's size

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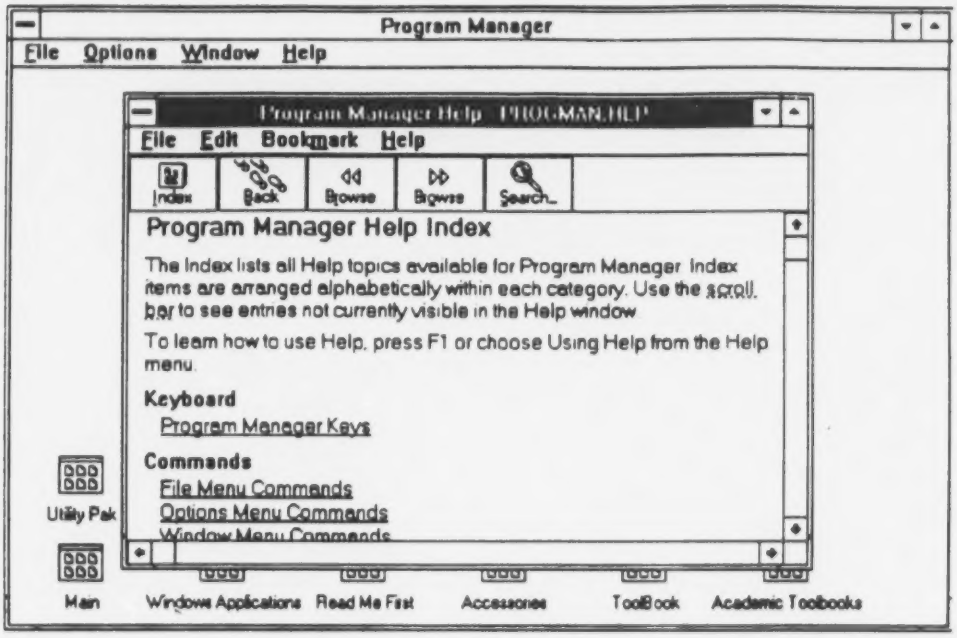
Windows Overview: More Working With Windows



- *Windows Help* -- An extensive on-line help facility is always available. To access it press F1 or click the Help menu.

  Help Buttons can be clicked on to:
  - ✓ Index: Display a list of help topics
  - ✓ Back: See the last topic that you viewed
  - ✓ Browse < <: See the previous topics in a category
  - ✓ Browse > >: See the subsequent topics in a category
  - ✓ Search: Search for topics by keywords

  Click underlined topics to jump to related topics

  Click dotted underlined topics and hold the mouse button down to see definitions of important terms.

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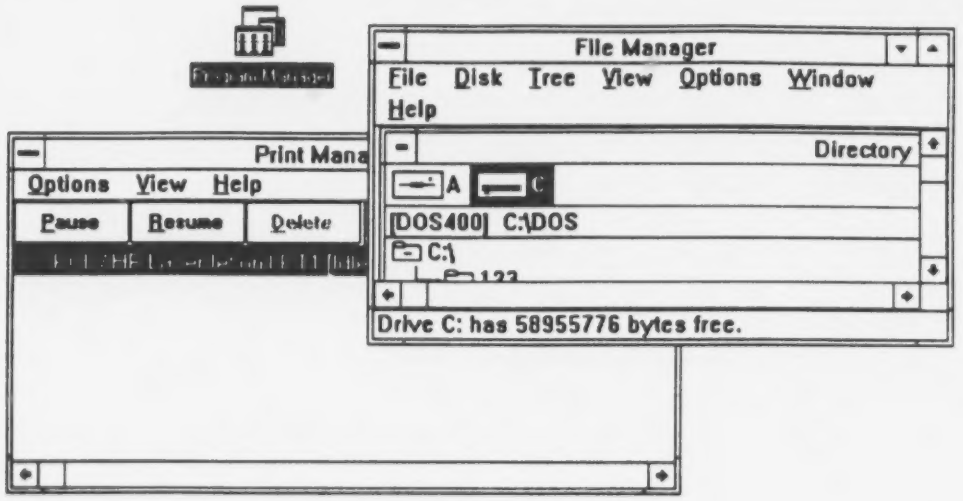
Windows Overview: Managers



- *Program Manager* -- An organizational tool that helps you use the programs running under the Windows operating environment
- *File Manager* -- A Windows tool that can help you organize your files and directories
- *Print Manager* -- A special tool that allows you to direct and control printing from applications to all installed printers

Notes:

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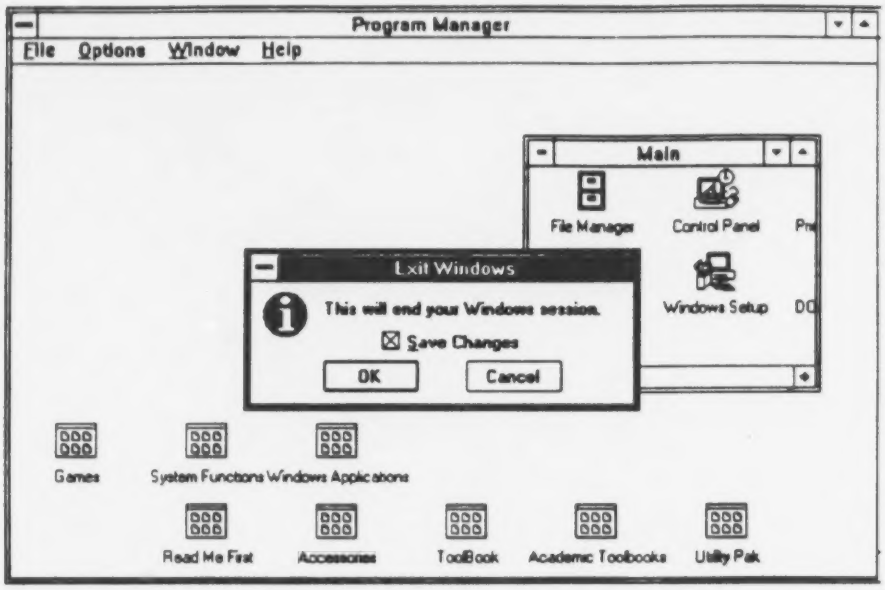
Program Manager: Overview



- Program Manager organizes and launches applications.
- Program Manager runs during the entire duration of a Windows session.
- When you quit Program Manager, you also exit Windows.

Notes:

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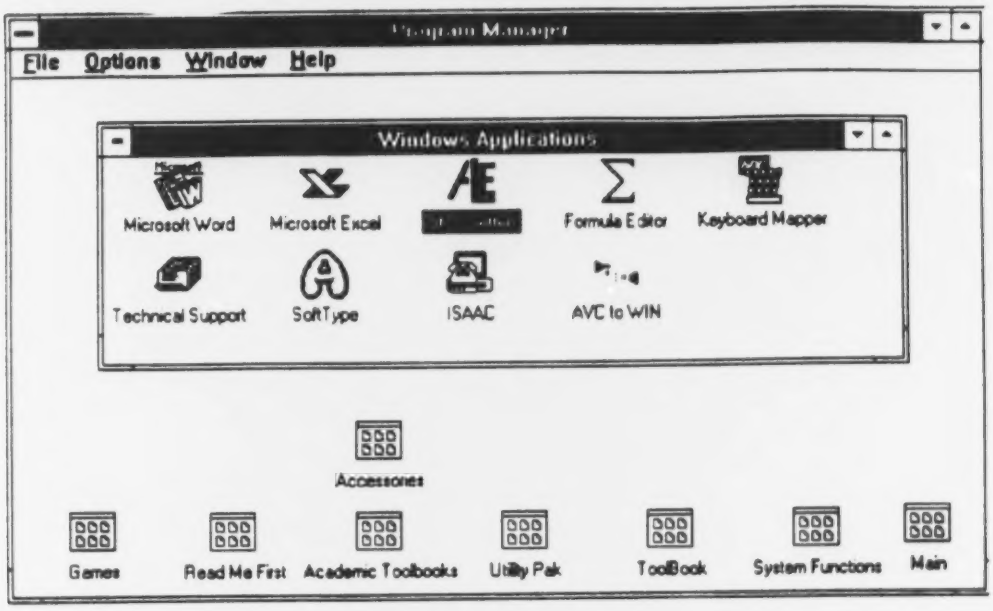
Program Manager: Group Windows and Program Icons



- Program Manager uses a series of group windows to arrange applications into organized categories.
- A group window is a document window in the Program Manager's workspace. They contain icons but no menu bar.
- To launch an application you should select the correct group window to open it and double click on the application icon.

Notes:

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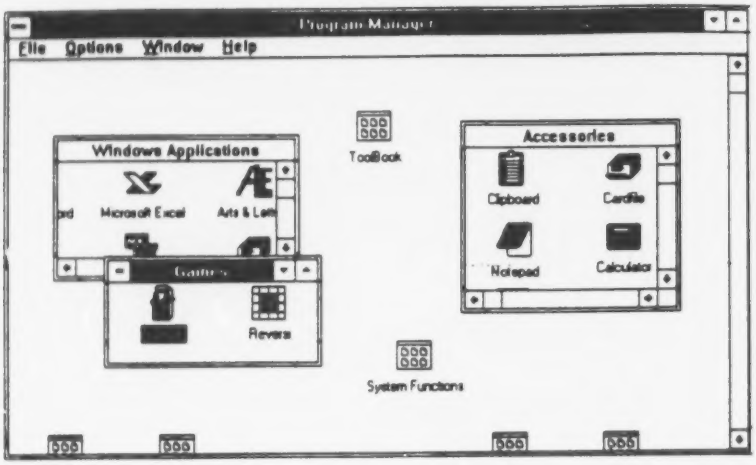
Program Manager: Manipulating Group Windows and Program Icons



- Group windows can be minimized, sized, rearranged and moved in Program Manager's workspace.
- Program icons can be added, deleted, moved and copied to a Group window.
- To move a program item from one group window to another, drag it from the original window to the new window and release it.
- To copy a program item from one group window to another, hold down the CTRL key while dragging it from the original window to the new window and then release it.

Notes:

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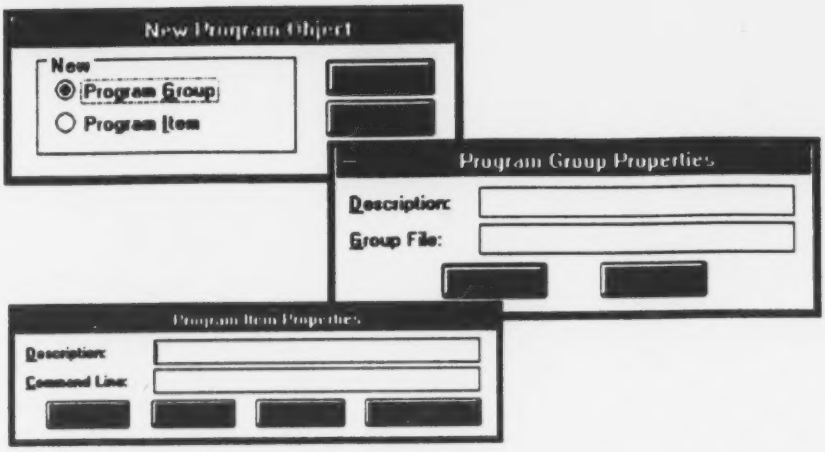
Program Manager: Group Windows and Program Icons Properties



- Groups can be created by
  - ✓ choosing New from the file menu.
  - ✓ selecting Program Group from the Program Object box to pop up the Program Group Properties dialog box.
  - ✓ entering a description of the group and a file name for the group. If you do not identify a file name, Windows will do so for you.

- To add a Program to a group, with the appropriate group window open,
  - ✓ select New from the file menu.
  - ✓ select Program Item from the Program Object box to pop up the Program Item Properties dialog box.
  - ✓ enter a description of the program (or Windows will enter one for you).
  - ✓ enter the command line; that is, the DOS command to start this program.

Notes:

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Windows 3.0

Module 1

Hands-On Exercise

Try each of the following. Use HELP whenever you would like additional information.

1. Pull down each of the Windows menus to view what options are available.

   What mouse action was required to pull down the menus?

2. Double click on each of the Windows Icons to see what software is accessed through each. Continue until you have all windows open.

   What happens to the last window when the next one is opened?

3. Move from one window to the next by clicking on it.

   Rearrange the desktop by selecting a window and dragging it.

   Change the sizes of the windows by moving the pointer over the corner of the window until it becomes a double arrow; then hold down the mouse button and drag to the size you want.

4. With all windows still open, move the pointer to the **Windows Menu**.

   Select **Cascade**. *What happened to the windows?*

   Select **Tile**. *What happened to the windows?*

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5. Maximize the Program Manager window.

   Create a new group window by selecting *New* from the File Menu

   Select the Program Group option. Name the group *YOURNAME*.

   Copy **Clock, Notepad** and **Write** from the accessories group to YOURNAME group.

   Open Clock from your window, change to digital and close.

   Delete the YOURNAME group.

   Exit Windows ***without saving*** changes.

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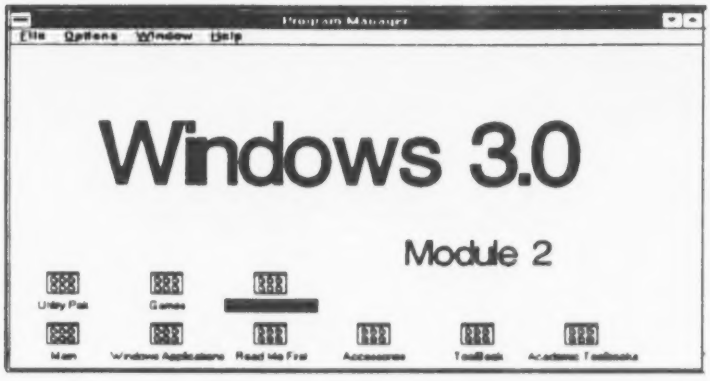

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Center for Teaching and Learning

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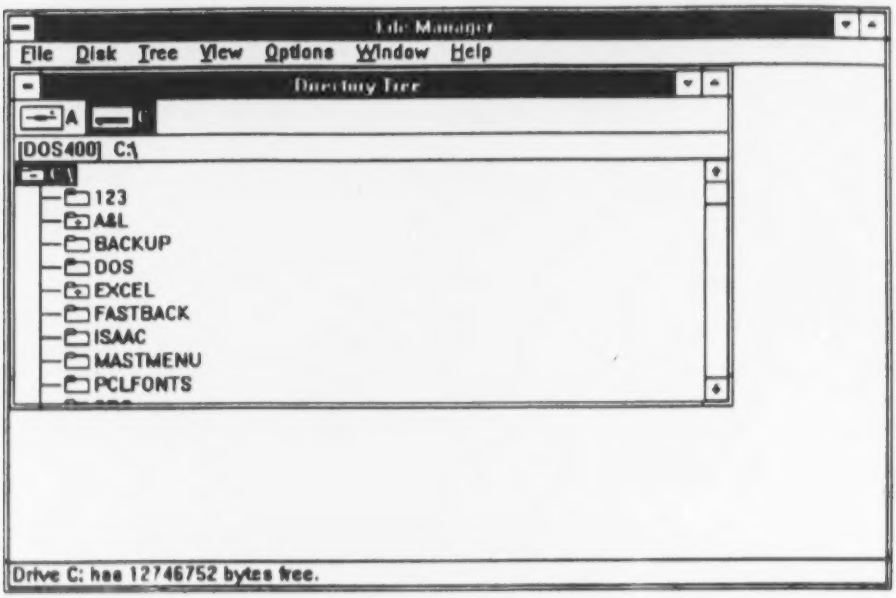
Module 2

Windows Managers

Upon completion of this module, you will be able to:

1. Use the File Manager to effectively organize and maintain files and directories.
2. Use the File Manager to apply DOS commands to disks.
3. Use the Print Manager to control printers and administer printing jobs.

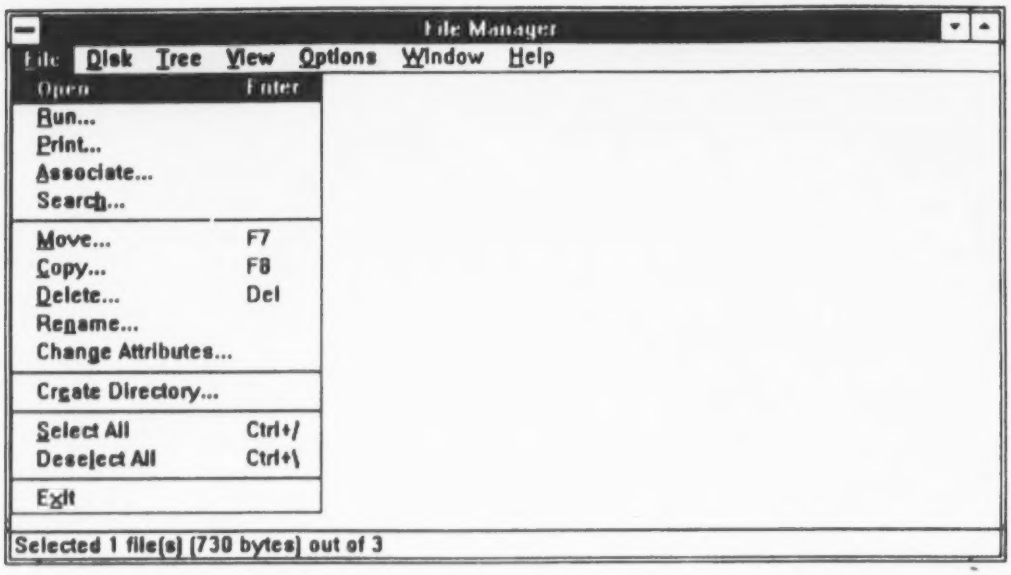
File Manager: Overview



- File Manager allows you to easily view and work with the files stored on your disks.
- File Manager displays a graphic representation of your directories and files.
- File Manager allows you to make alterations by just pointing, clicking and dragging.

Notes:

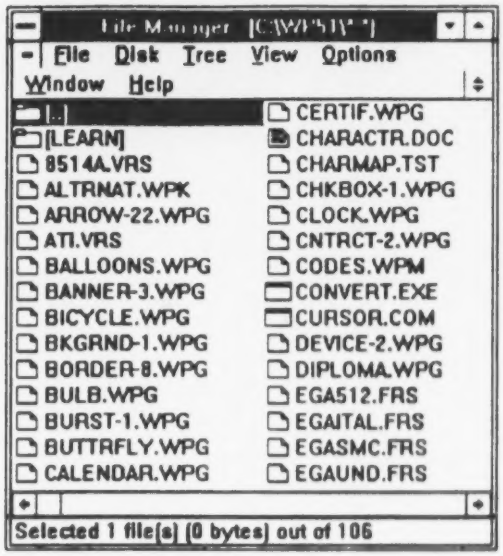
File Manager: Menus



- File Manager Menu provides pull commands that let you:
  - ✓ File -- Manipulate, search, and edit files and their attributes
  - ✓ Disk -- Prepare and maintain disks
  - ✓ Tree -- Alter the displays of a directory tree
  - ✓ View -- Change the method of display for file information
  - ✓ Options -- Customize the File Manager interface
  - ✓ Windows -- Customize the display within the window
  - ✓ Help -- Provides on-line help with File Manager

Notes:

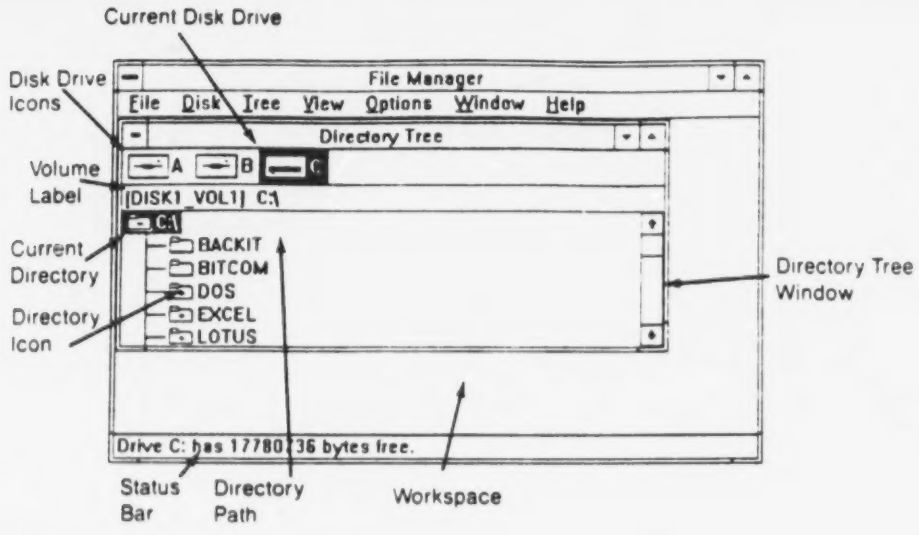
File Manager: Icons



- Directory Icons look like folders. Files and other directories can be stored within.
- Program File Icons look like miniature Windows. They represent executable applications.
- Document File Icons look like dog-eared pieces of paper. They represent documents that were created by and are associated with particular applications.
- Data File Icons look like paper but lack "writing" on them. These are all other data files.

Notes:

File Manager: Directory Tree

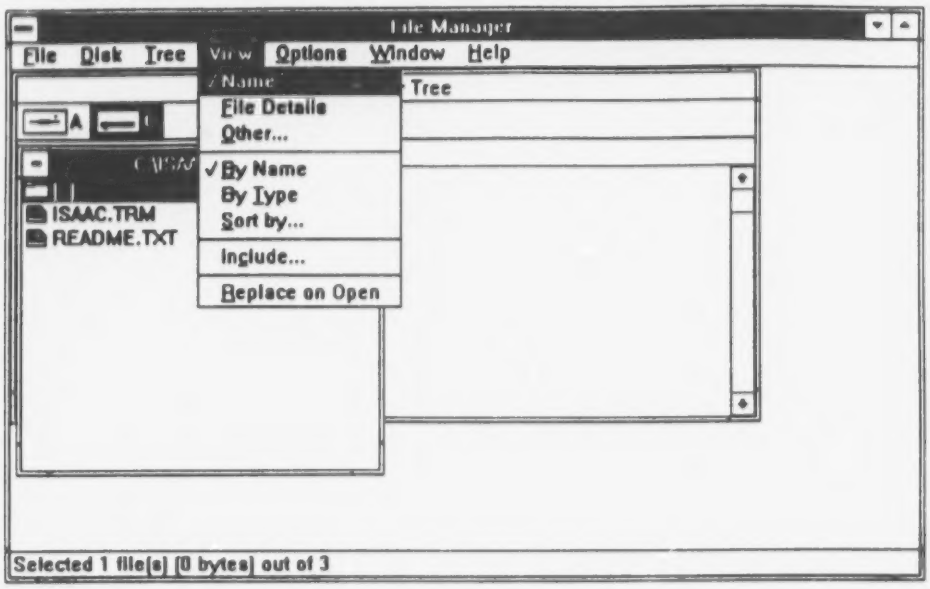


- The Directory Tree window displays:
  - ✓ Drive Icons - to show the available disk drives
  - ✓ Volume Label - to show the name of the current drive
  - ✓ Directory Icon - to show the subdirectories of the current drive
  - ✓ Directory Path - to show the directions for finding the current directory

- A plus sign (+) in a Directory Icon indicates that one or more subdirectories exist within it. File Managers lets you access subdirectories easily.
  - ✓ To expand the directory tree and reveal subdirectories, click on the plus sign
  - ✓ When a directory tree is expanded, the plus sign becomes a minus sign
    Program Item Properties dialog box
  - ✓ To collapse the directory tree, click on the minus sign
  - ✓ To collapse all branches and return to the original window, click on the root directory icon

Notes:

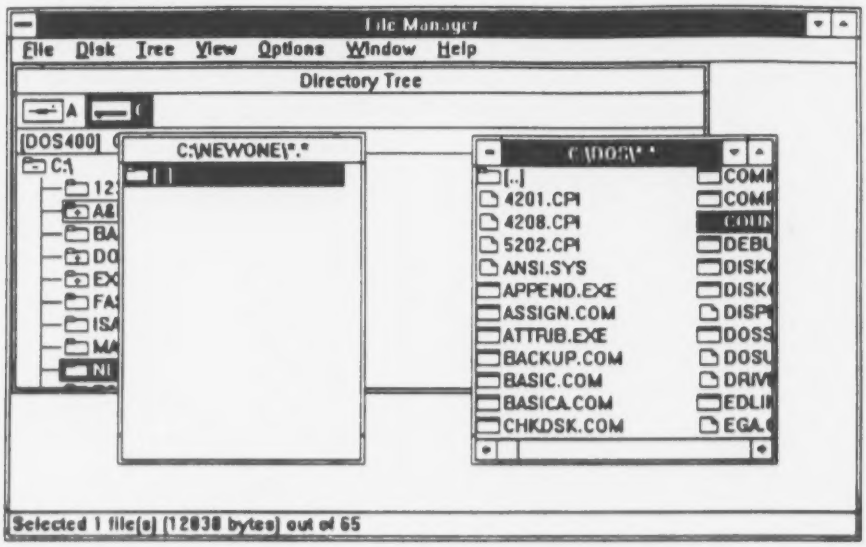
File Manager: Directory Windows



- To view the contents of a directory, you must open its directory window.
- Directory windows open in front of the Directory Tree and display all subdirectories and all files within the directory.
- Using the View menu, you can change the type of information, style of presentation and the order of the data displayed.
- Open directory windows are usually automatically updated.

Notes:

File Manager: Working With Files and Directories



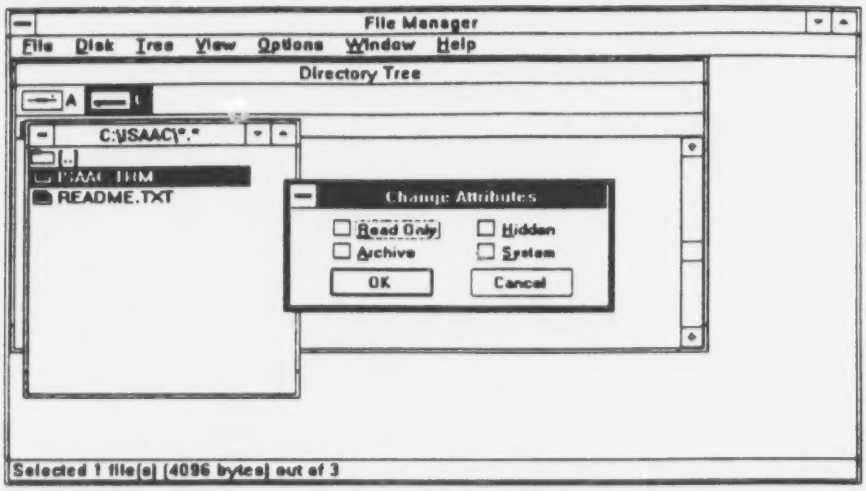
- To create a new directory, use the *Create Directory* command from the **File** menu.

- To search for a file or directory, use *Search* from the **File** menu. A search results window will display the full pathname of all matches to your search string.

- To work with a file or directory, you must first select it.
  - ✓ Click on the filename or directory name to select it.
  - ✓ You can extend the selection (select more than one item) by holding down the Control key while you click on an item .
  - ✓ To select a group of items, click the first item and then hold down Shift while you click the last item in the group.
  - ✓ To cancel a selection, hold down the control key while you click on the selected item.

- To move or copy files and directories, by dragging from one visible directory window to another:
  - ✓ Move an item by holding down the ALT key and dragging the item.
  - ✓ Copy an item by holding down the CTRL key and dragging the item.
  - ✓ Confirmation boxes appear after each action. Confirmation messages can be suppressed by using the Confirmation command in the Options menu.

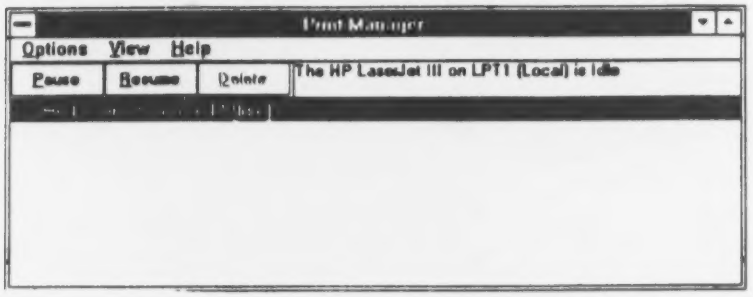
File Manager: More Working With Files and Directories



- To delete a file or directory, select the item(s) and use the *Delete* command from the **File** menu. Unlike DOS, deleting a directory removes all files and subdirectories within it.
- To rename a file or directory, select the item(s) and use the *Rename* command from the **File** menu. A Rename dialog box pops up for you to type in the new name.
- To set file attributes, use the *Change Attributes* command from the **File** menu.
- You can associate documents with applications so that clicking on the document will automatically start up the related application. To do this, use the *Associate* command from the **File** menu.
- You can start an application from File Manager by double clicking on the program file or an associated document file.

Notes:

Print Manager: Overview



- Print Manager runs in the background and is always available to accept and control printing jobs.
- Print Manager frees applications for spending time printing files.
- Print Manager works automatically whenever you send a file to the printer and can be seen as an icon on the desktop.

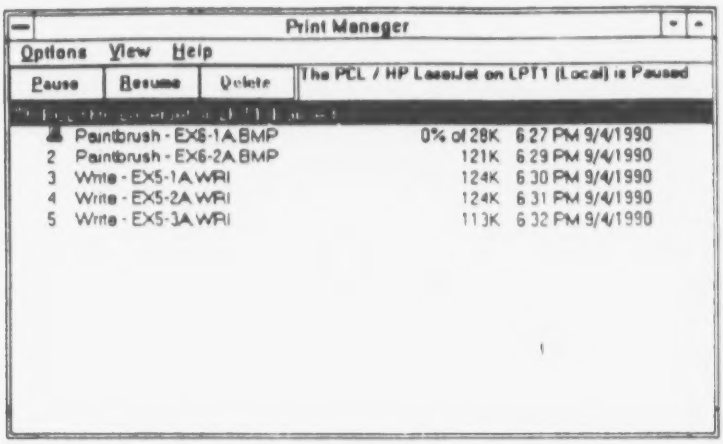
Notes:

Print Manager: Queues

- When Print Manager recieves more than one print job, it uses a queue to line the jobs up.
- Print queues route files to the printer(s) in the order they were recieved.
- The print queue can be viewed by maxmizing the Print Manager icon.
- Print queues can be paused to clear printer jams by clicking the Pause button in the Print Manager window.

Notes:

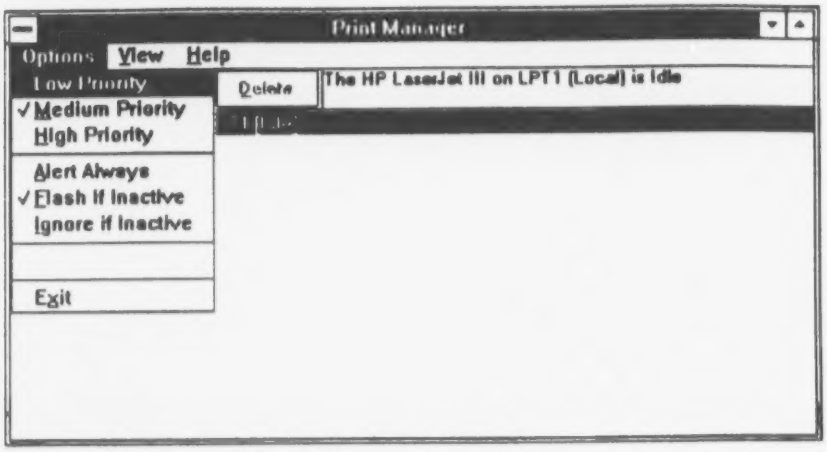
Print Manager: The PM Window


Print Manager
Options View Help
Pause
Resume
Delete
The PCL / HP LaserJet on LPT1 (Local) is Paused
1 Paintbrush - EX6-1A.BMP 0% of 28K 6:27 PM 9/4/1990
2 Paintbrush - EX6-2A.BMP 121K 6:29 PM 9/4/1990
3 Write - EX5-1A.WRI 124K 6:30 PM 9/4/1990
4 Write - EX5-2A.WRI 124K 6:31 PM 9/4/1990
5 Write - EX5-3A.WRI 113K 6:32 PM 9/4/1990

- Print Manager Buttons allow you to suspend printing, resume printing and remove print jobs from the queue.
- The Message Box provides detailed information on the selected print job.
- The Print Manager's workspace lists all print jobs, on each File Information Line.
  File information includes:
  - ✓ The position of the file in the queue
  - ✓ The size of the file
  - ✓ The time and date it was received by the Print Manager
- The Printer Information Line provides information on the printers that are installed in Windows and available for use.

Notes:

Working With Print Manager



- You can rearrange the order of the print queue by dragging an item to a new location.
- You can delete a file from the print queue by selecting it and clicking on Delete. NOTE: if you delete an item currently running, you may have to reset your printer!
- You can restart a paused printer by clicking on the Resume button.
- For important jobs you need in a hurry, you can change Priority through the Options menu to allocate more processing powere to the Print Manager.
- Exit Print Manager as you would any application but if you exit before the queue is empty, the remaining print jobs will be lost.

Notes:

Windows 3.0
Module 2
Hands-On Exercise

Try each of the following. Use HELP whenever you would like additional information.

1. Open the File Manager. It is located in the **Main** group.

   What window opened up in front of the File Manager automatically?

2. Review the options in each of File Manager's menus by pointing to each and clicking.

3. View the entire contents of the C drive by pointing and clicking on the Directory Tree window's right scroll bar.

4. Click on some of the file icons showing the plus (+) sign to display their subdirectories.

   Click on them again to return the display to its original format.

5. Open the WINWORD (Word for Windows) directory window by double clicking on its icon.

   What types of directories/subdirectories/files do you find inside?

6. Further open the Library subdirectory by double clicking on its icon. After reviewing the contents, but all the WINWORD windows away by double clicking on the control menu box.

7. Click once on the Root directory icon to select it. Using *Create Directory* from the **File** menu, create a personal directory and call it by your name.

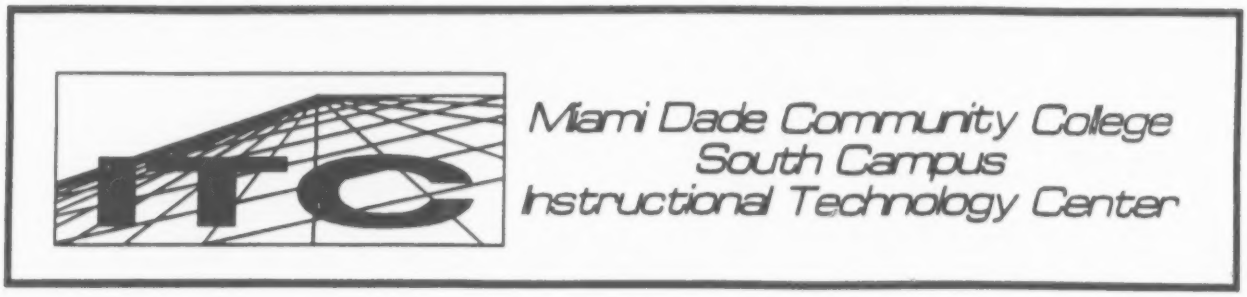
   Open the Backup directory window and copy the README file from the Backup directory to your directory.

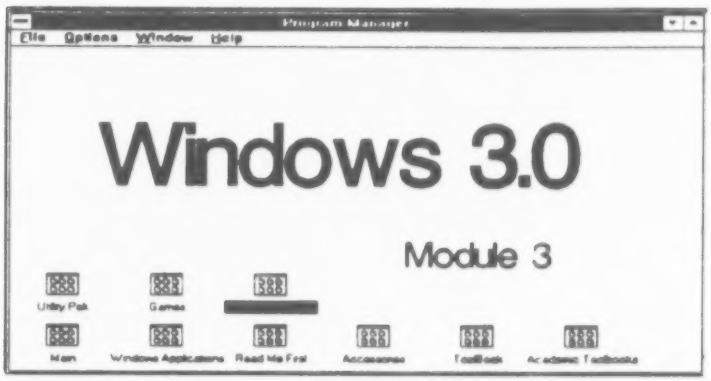
Close your directory window.

8. Minimize the File Manager and open the Print Manager (also in the MAIN group).

9. View the options from the Print Manager menu. Use help to review Print Manager's commands.

10. Close Print Manager and File Manager and return to the Program Manager.





Written and Illustrated by

Judy Lever
Center for Teaching and Learning

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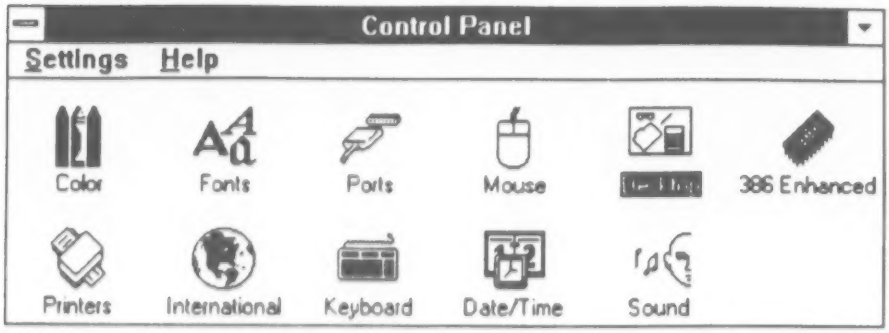
Module 3

The Control Panel and Accessories

Upon completion of this module, you will be able to:

1. Use the Control Panel to customize Windows to your needs.
2. Use the Control Panel to install necessary hardware information.
3. Identify the purpose of the standard Windows accessories.

Control Panel: Overview



- The Control Panel is the Windows application that allows you to customize Windows by changing its default settings.
- You can use Control Panel to install within Windows settings that will run your computer's specific hardware.
- The Control Panel window displays icons representing each of the options you can customize.

Notes:

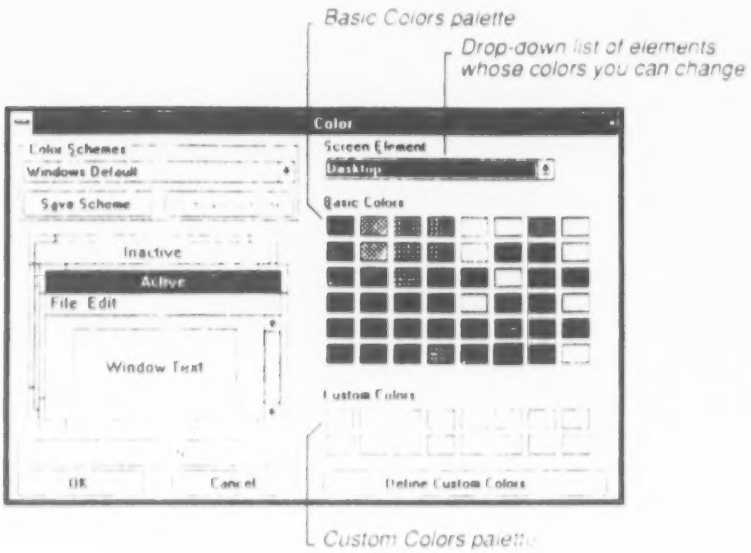
Control Panel: Icons

- The Control Panel features icons representing different settings. These include:

✓	Color	--	To set the colors on the desktop
✓	Fonts	--	To add and remove fonts from printers and display
✓	Ports	--	To set communications for your serial port
✓	Mouse	--	To customize the way your mouse operates
✓	Desktop	--	To customize the desktop displays
✓	Printers	--	To add, set up and remove printers
✓	International	--	To change formats for language, keyboard, time, and currency
✓	Keyboard	--	To set keyboard repeat rate
✓	Date/Time	--	To set the correct date and time
✓	Sound	--	To turn warning beeps on and off
✓	386 Enhanced	--	To customize computer resources

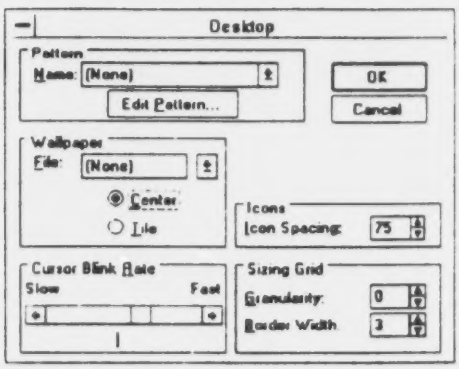
Notes:

Control Panel: Customizing the Desktop



- Color Schemes for the desktop can be selected from the preset Windows choices or you can create a custom scheme yourself.
- To use a preset color scheme, choose the color icon from the Control Panel and select your choice from the scrolling color scheme list.
- To change a preset color scheme, use the *Color Palette* button and select from the basic colors displayed for each desktop element.
- To create custom colors, choose the *Custom Colors* button and mix the hues for each element on the desktop.
- To alter the appearance of the desktop, display a bitmap as wallpaper in place of a desktop color or pattern. Note: Wallpaper uses more memory than other desktop displays.

Control Panel: More Customizing the Desktop



- To change the spacing between icons on the desktop so that names do not overlap, choose the **Desktop** icon from the Control Panel and increase the icon spacing amount indicated in the Icon Spacing text box.

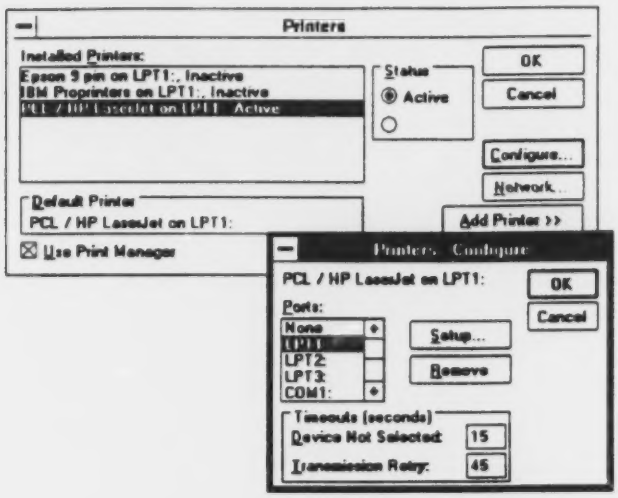
- The sizing grid sets up the arrangement of invisible lines along which your desktop icons organize. To change the sizing grid, choose the **Desktop** icon from the Control Panel and select the Granularity text box to change the settings.

- To change the size of the width of the border around each window, choose the **Desktop** icon from the Control Panel and increase the amount indicated in the Border Width text box.

- To change the cursor blink rate, choose the **Desktop** icon from the Control Panel and change the selection in the Cursor Blink Rate text box.

Notes:

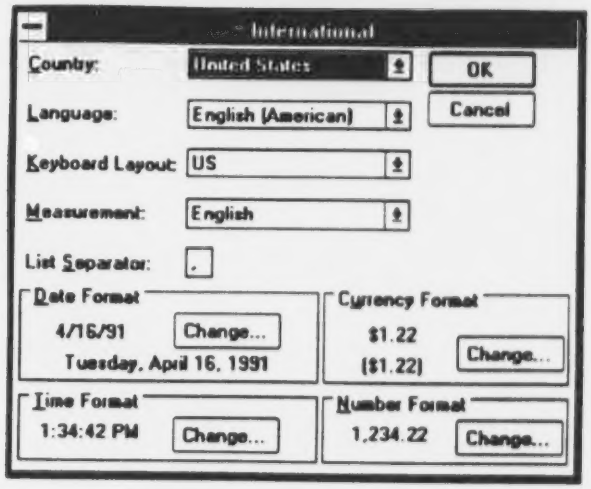
Control Panel: Using Printers



- To use a printer through Windows, you must install the printer in Windows.
- A print driver is a special program that provides information to Windows about the printer hardware. When you install a printer in Windows, you are adding the printer driver file for Window to use.
- You must also tell Windows which printer port to use with that printer.
- After installing the printer, you can customize the printer configuration used. After opening the Printer icon, choose *Configure* from the Printers dialog box to make your selections.

Notes:

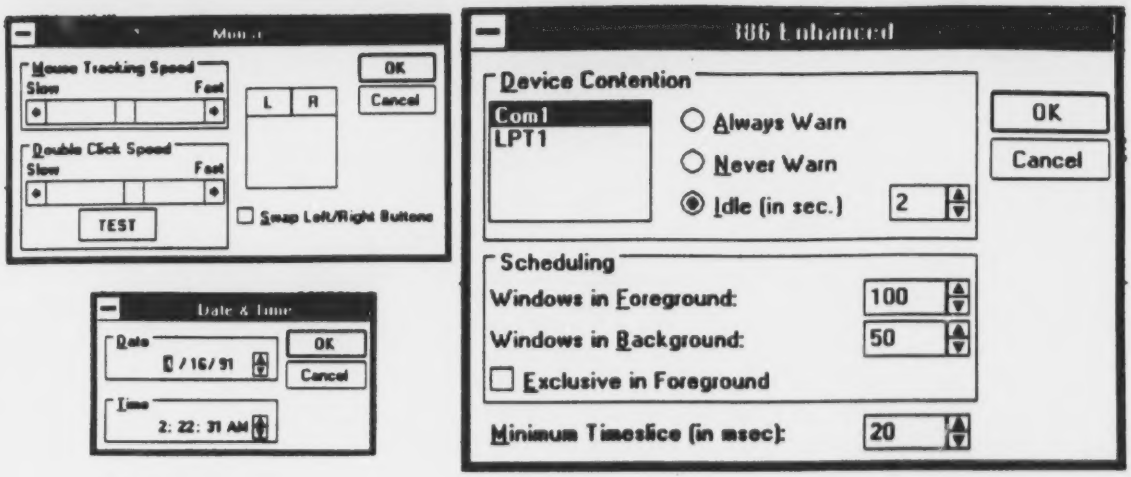
Control Panel: Setting International Options



- You can set the international options for Windows and all Windows applications.
- To set the options, choose the International icon from the Control Panel to display the International settings dialog box.
- You can set the country, language, keyboard layout, measurement unit, and formats for date, time, currency and numbers.

Notes:

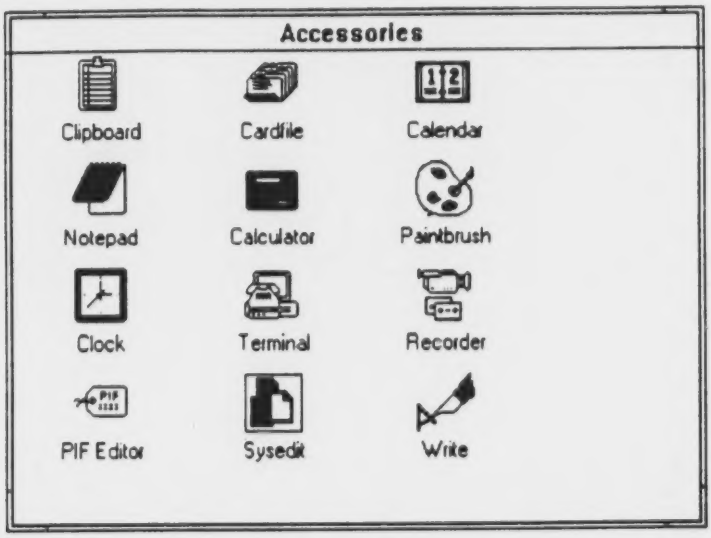
Control Panel: More Customizing Options



- Mouse -- You can customize the tracking and clicking speed and switch the functions of the left and right button though the Mouse dialog box in the **Mouse** icon window.
- Date and Time -- You can set the system date and time through the **Date and Time** icon.
- Keyboard -- You can adjust the keyboard repeat rate through the **Keyboard** icon.
- Sound -- You can turn the Window's warning beep on and off through the Sound icon.
- 386 Enhanced Mode -- You can set options for running in 386 Enhanced Mode including memory allocation and device contention handling.

Notes:

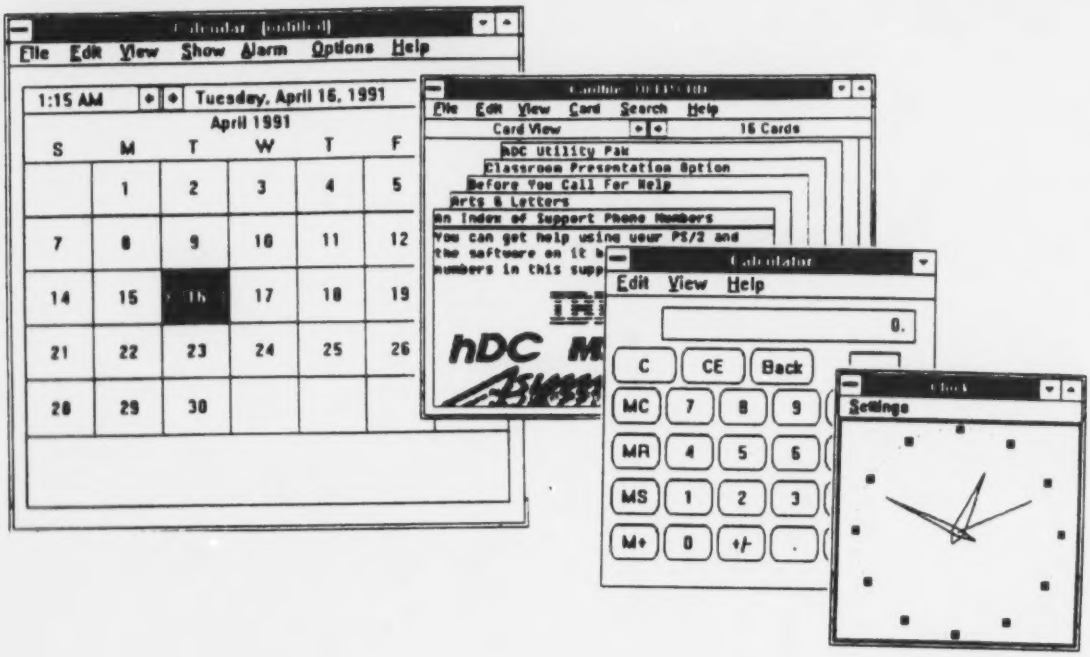
Windows Accessories



- *Calculator* -- A standard and scientific calculator that pops up in a Window
- *Calendar* -- A month-at-a-glance calendar and daily appointment book available in a Window
- *Cardfile* -- Window's electronic index cards to store information, manipulate it and print it.
- *Clock* -- A pop up clock available in both analog and digital displays

Notes:

More Windows Accessories



- *Notepad* -- A pop-up text editor for notes, memos or DOS text files
- *Recorder* -- Windows shortcut for recording multiple keystrokes in a file for later playback.
- *Terminal* -- Window's telecommunications application

Notes:

Windows 3.0

Module 3

Hands-On Exercise

Try each of the following. Use HELP whenever you would like additional information.

1. Change the Colors option for the desktop to Pastel.

2. Select the Desktop option and set the pattern to 50% Gray and the wallpaper pattern to Paper.bmp.

3. Use the Tile option to display the wallpaper pattern in a four pattern format.

4. Set the Icon Spacing to 200.

5. Set the Border Width to 10.

6. Change the speed on your mouse tracking and keyboard repeat through the Mouse and Keyboard icons.

7. Set the Date and Time.

8. Configure the currently installed printer to COM1 and then back to LPT1.

9. Return all customization back to the original settings.

Miami Dade Community College
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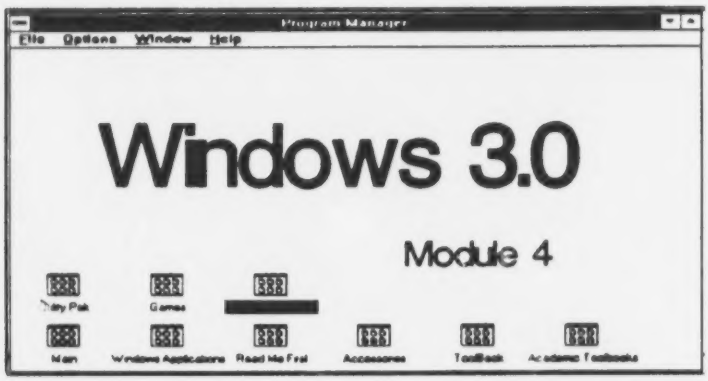
Instructional Technology Center



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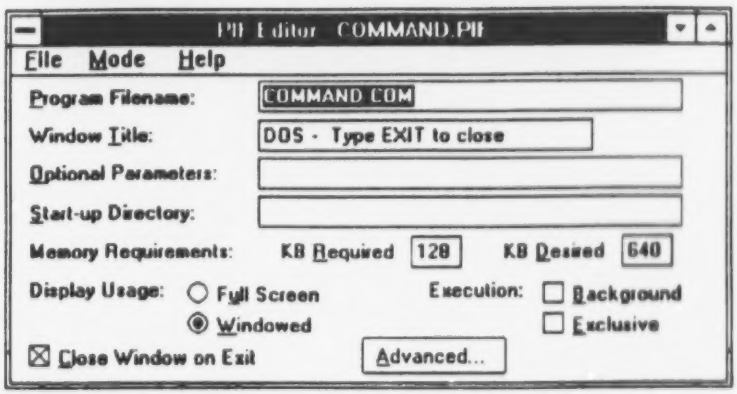
Module 3

Windows Advanced Topics

Upon completion of this module, you will be able to:

1. Use PIFs and the PIF editor for applications.
2. Use the Windows Command Line to customize start up.
3. Use Windows setup to maintain Windows.

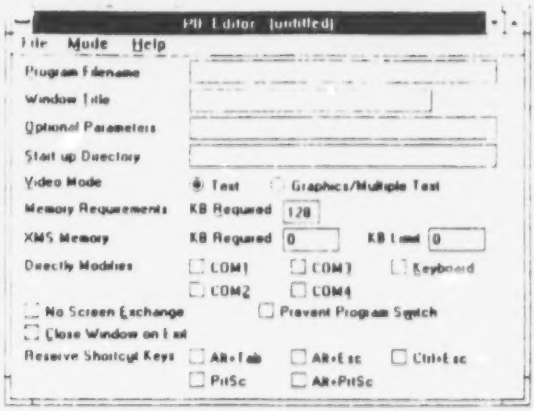
Windows Program Information Files



- A PIF is a special Windows file that contains setting telling Windows how to operate certain non-Windows applications.
- A PIF's filename usually matches the corresponding application (eg. Word Perfect's PIF's name is WP.PIF).
- If no PIF is present when Windows tries to start a non-Windows application it uses a set of standard application settings.
- Most applications run properly using Window's standard settings.

Notes:

The PIF Editor

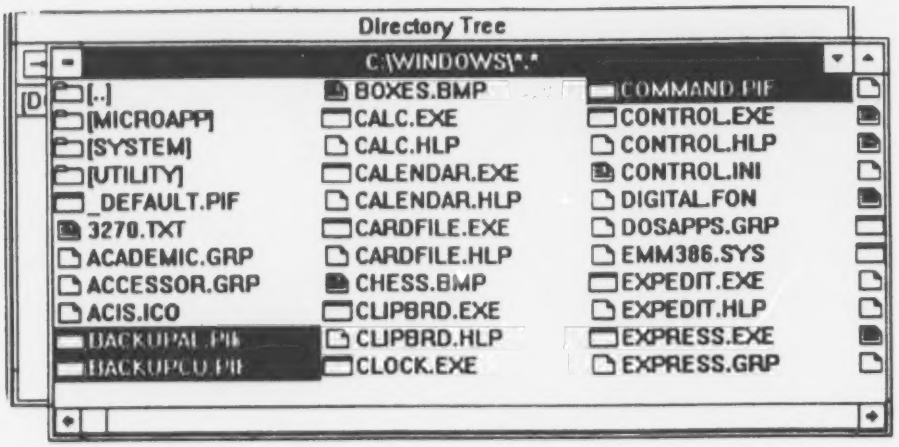


- The PIF Editor allows you to make permanent changes to an application's PIF.
- If an application does not have a PIF you can use the PIF Editor to create one.
- You may want to change an application's setting to:

  ✓ Change the pathname for the application.
  ✓ Change the start-up directory that contains the application.
  ✓ Specify a program parameter for the application
  ✓ Give the application more memory.

Notes:

Running Non-Windows Applications from PIFs



- From File Manager, double click on an application's PIF name to launch it or add the PIF name to a Program Manager group and double click on it.
- The advantage of running an application from its PIF is that it will launch the application using the values in that particular PIF. An application can have several PIFs associated with it, each with specific start up instructions.

Notes:

The Windows Command Line

```
c:> win /r c:\excel\excel.exe
```

- The command line is the text you type at the DOS prompt to start Windows. It tells your computer
  - ✓ To start Windows
  - ✓ What mode to start Windows in
  - ✓ How to use expanded memory
  - ✓ The application you want Windows to run when it starts

- The syntax for the command line is:

  win **Switches RunCommand**

  where *win* tells DOS to start Windows
  Switches (/) specify mode and memory use
  RunConnmand provides optional text to instruct DOS to start an application

Notes:

Using Command Line Switches

SWITCH

/

- A switch can be used to change the Windows mode
  - ✓ Use /R to run Windows in real mode. Real mode provides maximum compatibility with earlier versions of Windows. It is the only mode available for computers with less than 1 megabyte of memory.
  - ✓ Use /S to run Windows in standard mode. Standard mode is the normal operating mode for Windows. You must have an 80286 processor and 1 megabyte of memory.
  - ✓ Use /3 to run Windows in 386 mode. 386 Enhanced mode uses the virtual memory of the 80386 processor. It requires at least 2 megabytes of memory.
- A switch can be used to control uses of expanded memory in real mode
  - ✓ Use /E and /L to set the size of Expanded memory
  - ✓ Use /N to prevent Windows from using any expanded memory.

Notes:

Run Commands

- You can use the RunCommand to start an application immediately after starting Windows.
- To use a RunCommand, enter the file specification of the program you want to start immediately after the Windows start up command.
- An example RunCommand that would start up Word for Windows would read:
  win c:\word\word.com

Notes:

Windows 3.0

Module 4

Hands-On Exercise

Try each of the following. Use HELP whenever you would like additional information.

1. Open the File Manager. Try starting an application from its PIF.

2. Open the PIF Editor and view the features of an application PIF. Do not make any changes to the PIF.

3. Exit Windows. At the DOS prompt, start Windows with the RunCommand to begin the notepad. Use the file specification: *c:\windows\notepad.exe*

4. View Windows Setup to see the current settings.

5. Use the Setup Application choice from the option menu of Windows Setup to add a PIF for dBase.

6. Delete the PIF you added in step 5.

APPENDIX H

SAMPLE OPEN LAB SCHEDULE

CENTER FOR TEACHING AND LEARNING
SOUTH CAMPUS
CTL TRAILER - Ext. 7-2366

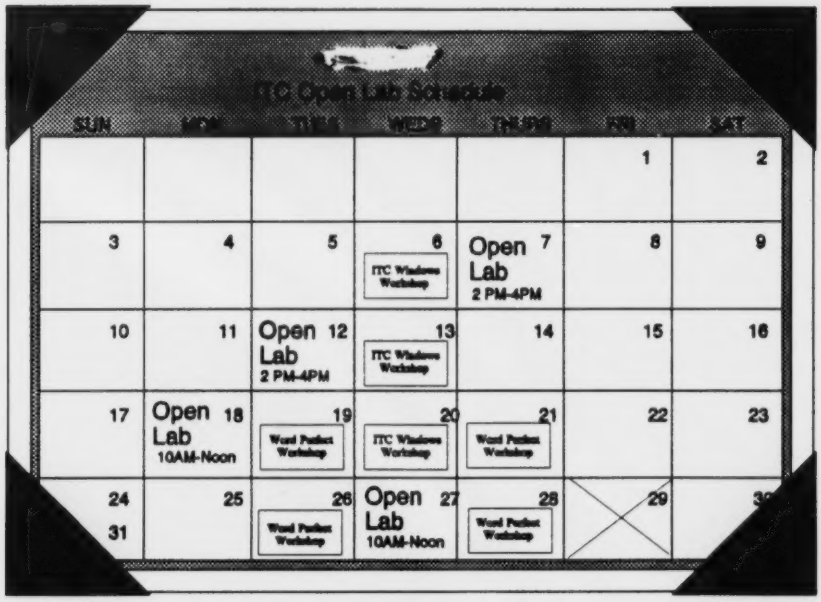
TO: South Campus Faculty (Full and Part-Time),
Staff and Administrators
District on South Faculty (Full and Part-Time),
Staff and Administrators
Homestead Campus Faculty (Full and Part-Time),
Staff and Administrators

FROM: Judy Lever

SUBJECT: Open Lab Hours for the ITC

After reviewing the Needs Assessments that have been returned so far, it appears that there is significant interest in having the ITC available as a resource center. Below please find a calander of open lab hours for the remainder of this month. It also indicates scheduled workshops. Open lab hours have been scheduled both morning and afternoon, on different days each week to accomodate everyone.

During open lab hours, I will be available to help you with software or hardware problems or interests. In addition, the entire line of WISCWARE (subject-matter software prepared by other educators) will be available for preview. Open lab hours are your opportunity for guided exploration and technical assistance with any of the DOS-based instructional technologies. Hope to see you there.



APPENDIX I

SAMPLE MINI-COURSE SYLLABUS

Course Syllabus

CGS 1400
PC-DOS

Instructor: **Judy Lever** **Phone: (H) 451-0597**
Office: **Room 1221** **(W) 237-5074**
Office Hours: Weds/Thurs, 2:00-4:00

I. Course Description:

An introductory course using a microcomputer disk operating system. Many of the concepts, features and commands of the disk operating systems are included. No previous computer training or experience is required.

II. General Course Objectives:

Upon completion of this course, the student will understand the DOS operating system and apply its most frequently used commands.

III. Specific Objectives:

Upon completion of the course, the student will be able to:

1. Explain the function and features of the MS-DOS operating system.
2. Understand and correctly use the basic internal and external commands.
3. Apply appropriate DOS commands for disk and file handling.
4. Understand and correctly use directory commands.
5. Apply appropriate DOS commands for file maintenance.
6. Apply appropriate DOS commands to configure a microcomputer system.
7. Identify the principles of programming and write a simple BASIC program.
8. Use the DOS line editor to create and implement batch files.

IV. Required Text:

Lin, Forest. (1991). The DOS Coursebook. El Granada, CA: Scott/Jones Inc., Publishers.

Additional Materials: One 3 1/2" Disk

V. Method of Evaluation and Grading System

Student performance will be evaluated on the basis of four exams and on the satisfactory completion of all assignments.

Each exam will count for one-fifth of the total grade. The successful completion of all assignments will count for the remaining one-fifth.
The grading scale is:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	59 and below

VI. Attendance and Make-Up Policy

Regular attendance is essential to your mastery and understanding of this course. Attendance is therefore **required**. Readings are to be completed prior to coming to class. While this syllabus outlines your core assignments, it is not final. Other assignments are likely to be given during class sessions. It is your responsibility to be aware of them. If you must miss a class, please arrange to have another student pick up any materials you may miss or call the instructor to make other arrangements. If you need to make up hands-on time or need extra time to complete your hands-on assignments, check the lab schedule for open lab hours. Tutors will be available to assist you during open-lab. Make-up exams will be administered at the end of the term.

VII. Course Drops

Students not completing the course for any reason are required to submit official drop notices to the Registrar's Office prior to the deadline date. This is **your** responsibility. Failure to comply with this procedure may result in your receiving a letter grade of "F".

CGS 1400
PC-DOS

Course Assignments and Exam Schedule

You must complete all readings and assignments by the end of each week. Assignments turned in after the week they are assigned will be considered late. Chapter DRILL questions, while not required, are strongly recommended for additional review. When completing chapter practice exercises, make a hard copy of your final screen of each practice to turn in for credit on that practice.

	Topic/Reading:	**Assignment:**
Week 1	Ch. 1: PC and DOS	Practice 1, Questions p. 27
Week 2	Ch. 2: Tour of DOS	Practice 1-4, Questions p. 58
Week 3	Ch. 3: Managing Disks	Practice 1-2, Questions p. 88
Week 4	Chapter 1-3 Review	Practice Test 1 Exam I
Week 5	Ch. 4: Files	Practice 1&2, Ques. - p. 120 Nos. 5-9
Week 6	Ch. 4: Files cont.	Practice 3&4, Ques. - p. 120, 1-4, 10-15
Week 7	Ch. 5: Directories	Practice 1-5, Questions p. 151
Week 8	Chapter 4-5 Review	Practice Test 2 Exam II
Week 9	Ch. 6: Copy Command	Practice 1-4, Questions p. 183
Week 10	Ch. 7: Maintenance	Practice 1&2, Ques. - p. 215, Nos. 1-8
Week 11	Ch. 7: Maint. Cont.	Practice 3&4, Ques. - p. 215, Nos. 9-15
Week 12	Chapter 6-7 Review	Practice Test 3
Week 13	Ch. 8: Redirection	Practice 1-5, Questions p. 248
Week 14	Ch. 9: Configuration	Practice 2, Questions p. 283
Week 15	Ch. 10: Line Editor	Practice 1&2, Questions p. 314
Week 16	Chapter 8-10 Review	Practice Test 4 Exam 4 Make Up Exams

APPENDIX J

SAMPLE MINI-WORKSHOP MATERIALS

As of 10/91
Likely to be modified soon!

Network Notes

Logging On!

The machine in your office has TWO sources of information and programs, the hard drive and the network. When you first turn on your machine it will boot up by looking to the hard drive for start-up information. A menu will come up from which you can start your word processing or other programs. While your machine may be physically attached to the network, it is not electronically connected if you boot your machine from the hard drive. It is, however, totally functional as a stand-alone machine.

If however, you want to connect to the network, you must insert your NETWORK DISK before turning on your machine. This will allow you to start the machine from the A drive where instructions are stored on the disk that will attach you to the network.

You will be asked both by the network and by Office Works to log on. You should respond by typing the name that appears on the label of your network disk. Your password and login name are the same. You can insure that your account will remain private by changing the password. When you are ready to make that change, please let Hector or Judy know. We will assist you.

Office Works

Homestead Campus uses a groupware program called Office Works. It has a variety of functions as outlined in the Office Works Handout. Your network account will automatically route you into Office Works. Below you will find a command summary for Office Works' e-mail facility. The only way to get the hang of it is to get on-line and try it. Don't hesitate to call the Tech Team is you need help!

To begin E-Mail	Use arrows to move to E-Mail on menu bar. Press enter once it is highlighted. A mail menu will be pulled down.
To read Mail	Use arrows to highlight *New Mail Check*. A Message List will appear of the screen. Use the arrow keys to highlight the one you want to read and press Enter. The text of the message will be displayed on the screen.
After reading Mail	After you have read a message, press the ESC key. Use the arrows to highlight your choice (delete, save, etc.). Once done, you can either read another message or return to the Mail Menu by pressing the ESC key.

As of 10/91
Likely to be modified soon!

To Send Mail

Select Send Mail from the Mail Menu. You will enter the Compose Screen in which you can create your message.

Addressing the Message: You must use the recipient's user code, not their name. To find out a user code, you can type in the first two letters of the code and then press the TAB key to get a listing of users. HA are the first letters for Homestead Administrators, HF is used for Homestead Faculty. Once a list is displayed, use your arrow keys to highlight the recipient's name and press Enter.

Typing the Message: This portion of the Compose screen is like a mini word processor. You can correct errors, indent and word wrap.

Sending the Message: After typing in your message, press the F10 key. An options box will appear that will allow you to make adjustments to the way your message will be sent. If you have no changes, press F10 once more and the message will be sent.

To use Word Perfect

Word Perfect is available on the network. To use it, highlight the Menu choice from the main menu. You will see the Word Perfect option. Use your arrow keys to highlight it and press Enter.

Please store your data files on a disk in the A drive instead of in your network account. As we grow, we have less and less space available for storage of personal files. Also, if you cannot print from your machine for any reason, it will be easier for you to go to another networked machine if you already store your files on a floppy disk.

There's lots more to Office Works so we will be holding a series of mini-workshops on each of its major functions. This, however, should get you started. An on-line tutorial is also available if you want to get started on your own. It can be accessed from the choice Tutor on the main menu.

Please send the Tech Team an e-mail message as soon as you can. We'd like to be sure that everyone can send and receive mail by the end of this term. Happy Computing!

Miami-Dade
COMMUNITY COLLEGE

Homestead Campus

Technology Training

Telecommunications for Teachers

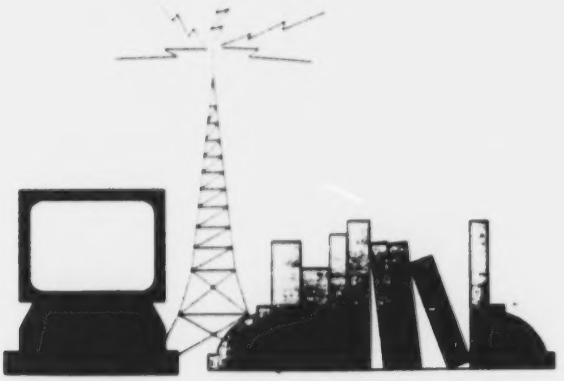
Judy Lever
Director
Instructional Technology
October 1991

Telecommunications:
What is it?

- Computers can communicate with each other just as they communicate with a printer or disk drive.
- *Hard wired* computers communicate via a cable that runs between them.
- Telephone lines can be used instead of cables for machines too distant to connect directly.
- ***Telecommunications*** is data communications between computers by means of telephone lines. Instead of voice, the lines are used to transmit digital data.

Notes:

Telecommunications:
Why try it?



- Your personal computer's resources are limited by the amount of software you can purchase, the amount of data you can store and the time you have to handle the vast amount of data available to you.
- Your personal computer is like your library. It contains the resources you most often need.
- Just as you often need to search a larger library for useful data, you can also let your computer search larger data sources for additional resources.
- ***Telecommunications*** is the method your computer can use to access a wealth of information on-line. It can also allow you to communicate with other people searching for or interested in the same topic.

Notes:

Telecommunications:
What hardware do you need?

- Computer data has a different format than voice data. Phone lines were created to carry voice. Adjustments must be made to the computer data to send it over the phone lines.
- Computer data must be altered or **MO**dulated before it can be sent across the lines. Before it can be received by the computer at the other end of the lines, it must be changed back to computer format, that is, **DEM**odulated.
- The piece of equipment that converts the data in the way is a **MODEM.**
- Both the computer at the sending end and the computer at the receiving end must have a modem attached. All modems can both modulate and demodulate outgoing and incoming data.

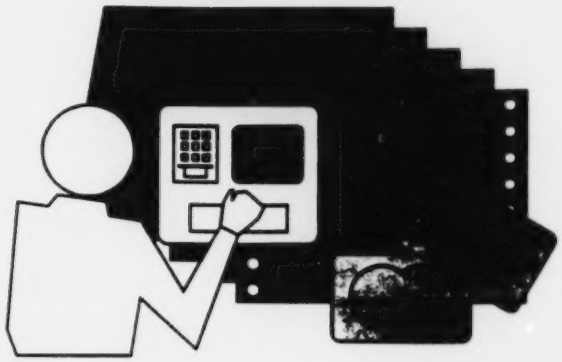
Notes:

Telecommunications:
What software do you need?

- Computers need instructions to accomplish any task. The instructions (program) that tell the computer how to operate the modem and do a telecommunications task is called **communications software.**
- Communications software temporarily turns your computer into a telecommunications device during which it will act like a sophisticated phone that sends data, receives data and store it for your later use.
- Telephones are standardized. While they may look different, the phones at either end of a telephone call use the same technology.
- Since the computers at either end of a data transfer may NOT be the same, the communications software is used to temporarily set them to understand each other.

Notes:

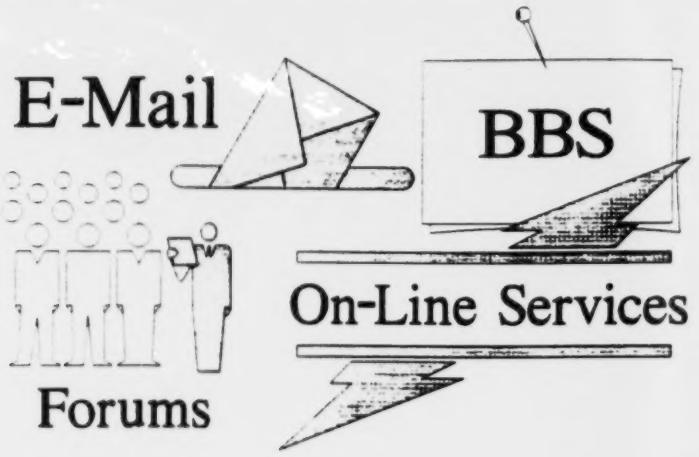
Telecommunications:
What can you do with it?



- In the Information Age, we cannot collect and organize the vast amount of data that is available to us. There is too much information for any one person or organization to handle.
- Telecommunications lets you use your home or office computer to access, collect and organize the electronic resources of interest to you.
- Telecommunications is your passport into the electronic world you use whenever you shop, make reservations or get cash from your bank's ATM.
- With your computer, modem and communications software you can connect to a vast network of other machines and tap into their power and resources. You can use this communications network to connect to other people to exchange ideas.

Notes:

Telecommunications:
Some Common Formats



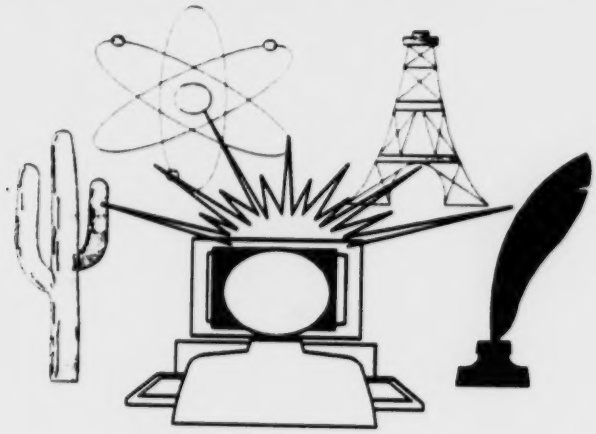
- ***Bulletin Boards*** -- Like community bulletin boards, this electronic version allows computer users to post electronic messages for everyone connected to the bulletin board to read. Bulletin boards are offered and maintained by schools, businesses and groups that share a common interests. Access is usually free and interested users are welcome.

- ***Electronic Mail*** -- Also called e-mail, this offers the computer user one-to-one communication with another person on-line. E-mail provides electronic versions of post office boxes so that "mail" can be received and stored until the addressee connects to the system. Messages can be typed and sent to other users as well.

- ***On-Line Services*** -- On-Line services, both commercial and those sponsored by public agencies, provide users with a variety of resources. Databases of information (eg. US Census reports), electronic encyclopedias, and stock quotations are just a few of the resources provided. Commercial services might also provide electronic banking, shopping and magazines.

- ***Electronic Forums*** -- Electronic discussion groups offer persons with similar interests the opportunity to hold electronic conversations. Live forums can be held by a group of interested participants regardless of their physical locations. Or, comments be sent to the electronic forum and accessed later by interested computer users.

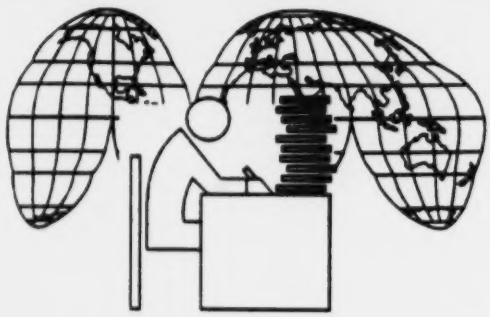
Telecommunications:
Educational Applications



- Telecommunications can add a vast array of information resources to any school with a computer, modem and phone line.
- With telecommunications, classroom resources need not be limited by location or budget. Teachers and students can access a wealth of resources well beyond the means of any one institution.
- Teachers and students can connect to others on-line to share their ideas and explore different approaches.
- Global education becomes possible via telecommunications. Schools around the globe and educators at every level, in every nation, can connect and interact to create a global classroom.

Notes:

Telecommunications:
A Student Resource

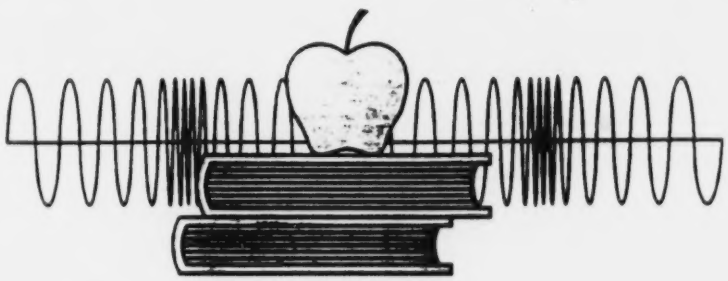


Students can use telecommunications to:

- Research a topic of interest using national databases of abstracts and articles.
- Share and gather data from other students on-line in order to get a better perspective on a topic.
- Develop international electronic pen pals to broaden their understanding of other cultures and nations.
- Participate in international student discussion groups and collaborative projects on topics of global concern.
- Participate in computer simulations and games with other students around the world.
- Enhance both communication and technology skills while working on-line.

Notes:

Telecommunications:
A Faculty Resource

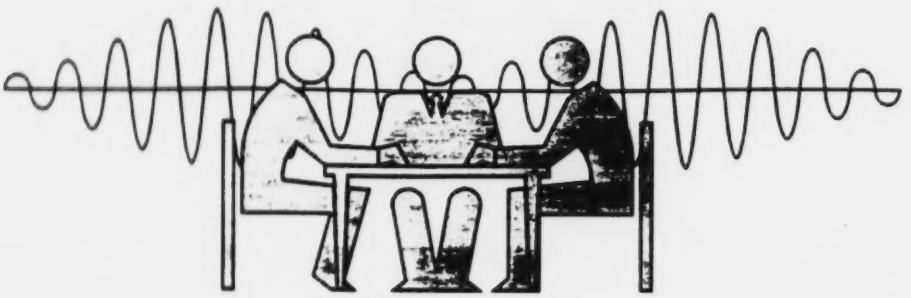


Faculty can use telecommunications to:

- Research the literature using national databases of abstracts and articles for current data in their disciplines.
- Communicate via an international network of educators (INTERNET) with colleagues across the globe.
- Gather current information for incorporation into classroom presentations.
- Provide resources to students and learning activities that incorporate those resources well beyond the means of their own educational institution.
- Participate in forums and work in collaborative projects to address the pressing issues in education.

Notes:

Telecommunications:
An Administration Resource

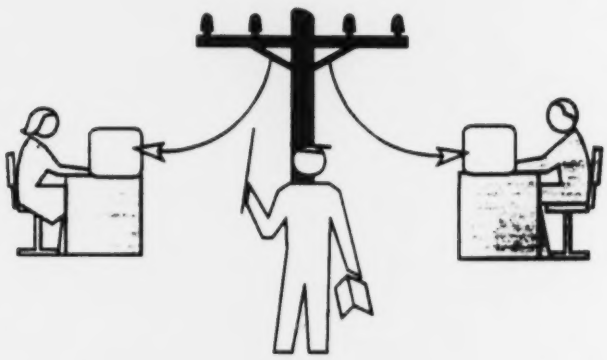


Administrators can use telecommunications to:

- Use national databases of information to gather demographics, statistics, and other data pertinent to administrative decisions.
- Communicate via an INTERNET on administrative issues with colleagues across the globe.
- Develop solutions to common problems with colleagues on-line.
- Increase the teaching/learning resources available in their schools.

Notes:

Telecommunications:
Innovation in Distance Education



Distance education delivers instruction to students at remote locations. Telecommunications can be used in a distance education program to:

- Deliver one-to-one and group instruction to any learner possessing a computer, modem and phone line, regardless of their location.
- Add an interactive element to video, audio and print based distance education programs.
- Reduce the student isolation that is frequently experienced in distance education programs.
- Provide off-campus students with on-line learning resources well beyond those found in other distance education approaches.

Notes:

Telecommunications:
Resources Available to YOU

The following resources are currently available to you from your home or office computer at no charge:

- **Florida Instructional Resource Network (FIRN)** -- Run by the Florida DOE, FIRN provides all educators with access to state and federal data bases, an electronic mail system with a gateway to INTERNET, access to computer-based instructional programs (eg., PLATO), state-wide test banks, teacher resources (eg., ERIC), and up-to-date reviews of educational materials used throughout the state.

- **Information System for Advanced Academic Computing (ISAAC)** -- An IBM sponsored project, ISAAC provides information about instructional software, access to information about projects on other campuses and an interactive forum on the discipline topic of your choice.

Notes:

APPENDIX K

TECHNOLOGY PRACTICUM FORMS

Miami-Dade Community College
Center for Teaching and Learning
South Campus

MEMORANDUM

TO: South Campus Faculty and Staff
FROM: Center for Teaching and Learning
SUBJECT: Spring/Summer Technology Practicums (TP's)

The Center for Teaching and Learning is pleased to offer an opportunity for faculty and staff to participate in a program designed to provide individualized learning experiences in how to use, integrate, and/or develop technology tools to improve instructional effectiveness. The goal of the Technology Practicums program is the advancement of teaching/learning with technology through the direct, fully supported commitment of time and effort by faculty/staff. The specific goals of the program are:

1. To provide faculty/staff with the time (funded through Campus Planning Points) and professional support to engage in innovative technology-based projects of their choice.

2. To create model technology projects for use in all appropriate subject areas.

3. To effectively use and further the skills of the technologically literate faculty/staff to advance educational delivery using technology.

Using training, collaborative learning, and directed supervision, participants in the Technology Practicum program will:

- Apply technology to enhance learning and teaching within their specific content area.

- Develop skills that will enable them to be a resource and model for other faculty/staff.

- Share outcomes of practicum experiences with colleagues.

- Produce written summaries of the practicum experience

Technology Practicums should be designed around the use of existing hardware and software as funds are not available to purchase more.

The following describes some of the possible practicum topics available to participants. Practicums are not limited to these topics; alternative technology application suggestions are welcome. To apply for a Practicum, you will need to complete the attached form in consultation with a CTL staff member. Call to make an appointment to meet with someone in the CTL to receive assistance with the form.

Teaching and non-teaching faculty as well as staff proposals will be reviewed by the CTL Advisory Committee and individuals will have an opportunity to discuss their proposals with the committee. The committee will then rank the proposals for the appropriate Dean's consideration.

Three options are available to faculty and staff not in teaching roles:

1. The practicum may be approved as part of the regular workday and no campus planning points would be paid.

2. The practicum would be completed between the hours of 8:00-4:30 and the individual would complete the hours missed from his/her job after 4:30. Campus planning points would be paid.

3. The individual completing the technology practicum would have some of his/her regular job responsibilities completed by someone else. In this case the campus planning points would be used to pay the other person.

If you have any questions or if you would like assistance in completing the proposal form, please call Roberta Stokes at 72567, Judy Lever at 70971, or Kristi Lozano at 72549.

Sample Practicum Topics

Multimedia
Individuals will have an opportunity to work with staff, receive indepth training on an individualized application, and develop courseware or presentation materials that utilize any combination of sound, text, animation, graphics, and/or video for use in their respective discipline.

Telecommunications/On-Line Resources
Participants will learn telecommunications basics in order to connect with a variety of on-line educational resources. Application and use of these resources as a teaching strategy will be emphasized.

Technology Tools for Presenting
Using a variety of technologies, new teaching strategies and delivery systems will be used to enhance classroom instruction. The use of presentation graphics, video discs, display devices, etc. will be incorporated into curriculum delivery.

Creating Computer Assisted Instruction
Using software tools of choice (selected from those currently owned by the Center), individuals will have an opportunity to create or customize computer based instruction for use in the classroom.

Technology in Curriculum
Individuals will have an opportunity to experience a variety of technologies to use in developing teaching/learning strategies in their subject area.

Center for Teaching and Learning
Technology Practicum Proposal

Name_____Dept._____Phone____

Time Requested: ___Spring ___Summer

Number of Points Requested: (to be completed in consultation with CTL staff)

1. Describe the objectives of your proposal.

2. Describe the professional development goals you would like to achieve from this experience.

3. Briefly describe your previous experience (software programs you can use) and knowledge that you feel prepares you for this experience.

4. List the Center workshops you have attended.

5. Describe your current technology experience and your goals in terms of technology skills.

6. Indicate the hours you will most likely be available for the practicum if you are selected.

7. List existing hardware and software that may be needed to complete your proposal.

_____ Comments:_____
Department Chair Signature

_____ Comments:_____
Associate Dean Signature

_____ Comments:_____
Dean Signature

APPENDIX L

CURRICULUM INTEGRATION PROJECT PROPOSAL FORM

CURRICULUM INTEGRATION PROJECT

PROPOSAL FORM

Name:_____ Department:_____

Target Course:_____

Goal of the Project:_____

_____

_____

Objectives of the Project:

_____

_____

_____

_____

_____

Description of the Project:

Anticipated Technology Requirements_____

_____

_____

Other Materials Required:_____

_____

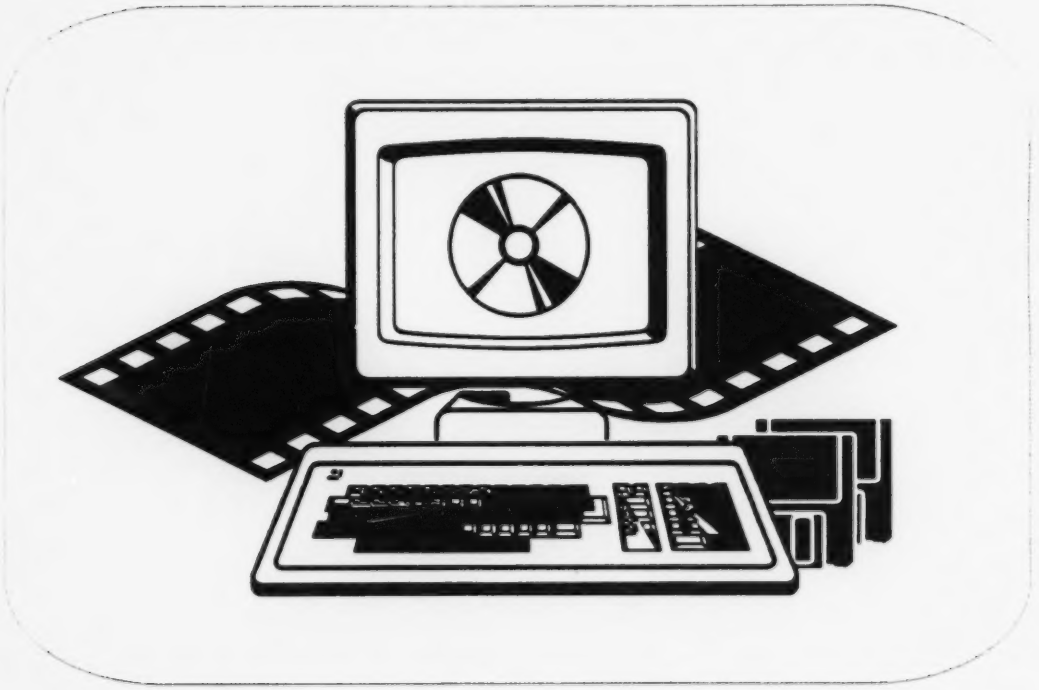
_____

APPENDIX M

SAMPLE TECHNOLOGY WORKSHOP MATERIALS

Technology Workshop

Course Information



Miami-Dade Community College
Homestead Campus
Business and Technology Department

Written by Judy C. Lever
Director of Instructional Technology

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Technology Workshop Course Information

Introduction

Technology is becoming an important part of every educational institution and most careers. The Homestead Campus has focused upon technology as a critical skill for every student. This one credit, open-entry/open-exit workshop is designed to give you the critical skills you need to use the technology available to you on this campus. These same skills are a foundation on which you can build computer competencies. This is a *facilitated learning* course. This means that your instructor, the lab staff and the other professionals you will work with will facilitate your learning. They will assist you as needed to complete assignments or understand concepts. They will help you operate the equipment. However, **you** will learn about the technology on our campus at a rate appropriate to you. There are no class meetings. This is a mastery-based course. When you have completed a section of the course and demonstrated your competency in it through completed assignments, you will go on to the next section. You may complete the course in three weeks of concentrated effort or take up to one academic year for all sections. The course is designed to offer you maximum flexibility and individualization while still challenging you as you would expect in the more traditional classroom. Upon completion of all sections, you will be given a Technology Passport. The passport will entitle you to use any of the campus technology for as long as you are an active Miami-Dade student. The Business and Computer Department (BCD) welcomes you to your campus technology course and to your first step into the Information Age.

Orientation

A brief orientation meeting will be held for all BCD technology workshop students. This orientation will provide you an opportunity to obtain your course materials, meet the instructors that will facilitate your course and meet other students enrolling in your technology workshop course. It is also an opportunity to ask any questions you might have. Orientations are held during evening hours on the main campus so that most working students can attend. All technology workshop students are urged to attend. If other commitments make attendance impossible, you must contact your facilitator to make other arrangements. Technology workshop facilitators Judy Lever (237-5074) or Hector Morrell (237-5056).

Course Syllabus

The Course Materials section of this study guide includes a syllabus for the technology workshop. Please read it carefully. It details the course objectives, the grading criteria and a listing of required course materials. You are responsible for the information presented in this syllabus. Please consult your facilitator if you have any questions.

Open Entry/Open Exit

This course is available to all Homestead Campus students at any time during the academic year. *Open Entry* means that a student may start at any time during a term and does not have to wait for a new term to begin. A special orientation will be held as needed during each term to provide information to those entering once a term has begun. *Open Exit* means that the course may be completed at any time and the student may exit with a passport upon

completion of the material. If a student does not complete in a single term, (s)he can continue the workshop during the next term without having to re-register. Students have up to one academic year to complete the workshop.

Technology Passport

Upon satisfactory completion of the course activities, students will be issued a Technology Passport. The passport will give you access to all campus technology whether you are enrolled in a technology course or not for as long as you are a Homestead Campus student.

Assignments

In the Course Materials section, you will find a detailed listing of the course assignments. A suggested time table is provided that will guide you through the completion of the course in a sixteen week term. Of course, you may take less time or more time as you see fit. To successfully complete the technology workshop, you must keep track of your progress through each section of the material. To help you in this, you will find an Assignment Tracking Sheet attached to the assignment schedule. You should complete this sheet for each assignment as it is turned in and graded.

Tests

Testing times for BCD technology workshop courses are between 6:00 PM and 8:00 PM on the last Monday evening of each month. Tests for all BCD courses are given in the

Computer Lab. If your personal schedule will not allow you to take your exam during the test times, you must make other arrangements with your facilitator.

To take an exam, you need to bring your registration for the course, a personal identification (such as a driver's license) as well as any materials indicated in the Course Materials section of this Study Guide. You will not be allowed to sit for an exam unless you have your registration and I.D.

Facilitator/Student Conferences:

You have been assigned an instructor to facilitate your experience in this course. The Technology workshop allows you flexibility. With this flexibility comes the personal responsibility to learn the assigned material on your own and maintain the pace and quality of your work throughout the course. Unlike the more traditional classroom, your technology workshop instructor is assigned the task of helping you learn the material rather than teaching it to you. Your facilitator will answer questions, assist you when you need help, assist you in tracking your progress and finally, evaluating your efforts.

You should make contact with your facilitator whenever you feel you need clarification or assistance in learning the material. Since your facilitator has a variety of other campus responsibilities, it is suggested that you call him or her to find a mutually agreeable time to meet rather than just stopping by. Conferences may be set up to explain material you are finding difficult, to discuss your assignments, tests or grades, or to assist you progress successfully through the course. The facilitator's goal is to provide you support during this flexible,

individual learning experience. He or she will be happy to assist you in your effort to master the course material independently.

Learning Resources

During the workshop, you will complete activities that require you to use student services, the library and the computer lab. Please be aware that each of these areas of the campus may have slightly different hours of operation. The hours for the campus Computer Lab, the HAFB Computer Lab and the library may change slightly with each term's schedule. Please be sure to check each one for the current schedule.

The campus Computer Lab is available to all workshop students. The Homestead Air Force Base lab is available if you are already on the base for another course. Both labs provide open lab hours both during the daytime and evening. Please stop by the lab to pick up a copy of the current lab schedule.

Conclusion

The Business/Computer Department of the Homestead Campus is happy to have you participate in one of our Technology Workshop. We try to provide our students with the skills they need for their Miami-Dade coursework and for the future. We welcome you to this program and encourage you to make the commitment necessary to experience a successful and effective facilitate learning experience. We also invite you to participate, whenever your schedule permits, in our wide range of traditional on-campus business and computer classes.

Course Materials

Course Syllabus

OST 1700/CGS 2920
Technology Workshop

Instructor: **Judy Lever** **Phone: (H) 451-0597**
Office: **Room 1221** **(W) 237-5074**

I. Course Description:

This course introduces the student to the technologies available on this campus. Students will learn to use a computer, integrated software, library technologies and student service technologies.

II. General Course Objectives:

Upon completion of this course, the student will be able to effectively use all technology available on the campus.

III. Specific Objectives:

Upon completion of the course, the student will be able to:

1. Identify the components of a computer and its peripherals.
2. Use both floppy and hard disk drives to access and store data.
3. Use an integrated software package to create, manipulate, save and print a variety of types of documents.
4. Use library technologies to access information both on and off campus.
5. Use student services technologies for registration and self-advisement.

IV. Required Text:

Shelton, Nelda and Burton, Sharon. (1988). Using MicroSoft Works. Boston: Houghton Mifflin Company

Also Required: Two double sided, low density 3 1/2" disks.

Suggested: Any additional documentation or book for MicroSoft Works

V. Method of Evaluation and Grading System

Student performance will be evaluated on the basis of the successful completion of the four sections of this workshop. Each section will count for one-fifth of the total grade. An open-notes final exam will make up the final fifth of the grade.

The grading scale is:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	59 and below

VI. Assignments

You must complete all readings and assignments exactly as they are detailed in each section of the course. When you have completed an assignment, turn in the hard copy with your **NAME, STUDENT ID, and ASSIGNMENT NUMBER** in the upper right corner. You will find that a student folder has been prepared for you in the Computer Lab. You are responsible for its contents.

When you come in to open lab, request your folder from the lab tutor. The folder will contain the grading copy of the Assignment Tracking Sheet like the one you will find in this packet. ***Be sure to fill in the copy in your folder as you turn in your work.*** The copy in this packet is for your own use. Your facilitator will periodically check this sheet and the contents of your folder to monitor your progress and grade your assignments. If you wish, you may remove from the folder any assignments that have already been checked.

VII. Tests

Tests will be given on the last Monday of each month between 6:00 PM and 8:00 PM. If you cannot take your test during the testing periods, you will need to contact your facilitator to make other arrangements.

The final exam consist of two parts, an objective section and a hands-on section. The objective section may include multiple choice, true and false, matching and short-answer essay questions. The material tested is taken from your readings and assignments. The hands-on section will require that you complete a task at the computer. All hands-on sections will ask you to note the commands you gave to complete the task and print out hard copies of the before and after product. During the final, YOU MAY USE YOUR NOTES AND/OR BOOK! You may not, however, ask the lab tutors for assistance during a test other than for technical problems with the equipment.

VIII. Course Drops

Students not completing the course for any reason are required to submit official drop notices to the Registrar's Office prior to the deadline date. This is **your** responsibility. Failure to comply with this procedure may result in your receiving a letter grade of "F".

IX. Technology Workshop
Sixteen Week Time Table

Introduction to Computers	3 Weeks
MicroSoft Works	7 Weeks
Library Technologies	3 Weeks
Student Services Technologies	3 Weeks

APPENDIX N

SAMPLE WORKSHOP EVALUATION

INTRODUCTION TO COMPUTERS USING DOS

I. OBJECTIVE EVALUATION:

Please circle the number that best indicates your achievement of the objective as a result of this workshop:

You will be able to:	Met Completely	Met to a Great Degree	Partially Met	Met to a Small Degree	Was not Met
Identify hardware components of a microcomputer system	5	4	3	2	1
Name the parts of a floppy disk	5	4	3	2	1
Correctly handle a floppy disk	5	4	3	2	1
Explain the use of major types of application software	5	4	3	2	1
Explain the difference between computer memory and external storage devices	5	4	3	2	1
Name and use the most common DOS commands	5	4	3	2	1
Name and use the most common DOS commands for hard disks	5	4	3	2	1

II. SUBJECTIVE EVALUATION

1. What did you receive the most benefit from during this workshop?

2. What did you receive the least benefit from during this workshop?

3. What recommendations do you have for changes should this workshop be offered again?

4. Please comment on the overall impact this workshop has had on you as a teacher, staff member or administrator.

5. Please comment on your level of satisfaction with the workshop.

6. In light of your experiences in this workshop, are there issues that you would like to explore in depth in another workshop? If yes, please specify.

7. Other comments:

APPENDIX O

TRAINING STRATEGIES PAPER

Strategies for Empowering Educators with Technology

A Presentation for the League for Innovation

November 1991

Judy C. Lever
Director of Instructional Technology
Miami-Dade Community College
Homestead Campus

Contributors:

Directors, IBM Instructional Technology Transfer Centers

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Terry Kramer	Massachusetts Bay Community College	Wellesley Hills, MA
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Dick Fritz	Moraine Valley Community College	Palos Hills, IL
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Ralph Duffy	North Seattle Community College	Seattle, WA
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Introduction

Technology has the potential of being a powerful and prevalent tool in the teaching learning process. Glenn and Carrier (1989) note that the past decade has seen an unprecedented growth in the availability of technology. The falling cost of technology, its greater accessibility and its increasing ease of use combine to promote its application in education. Administratively, most higher education institutions have committed significant resources to the acquisition and expansion of existing academic and administrative technology. All of these factors should result in a dramatic increase in the number of faculty using computer. Faculty, empowered with the available technology base, should be moving the teaching and learning process into the Information Age by leaps and bounds. This, unfortunately, is not the case.

Novak and Berger (1991) indicate that the results of their Computer Education Survey mailed to Michigan colleges and universities show that even with access to computers in their offices, most faculty do not use this resource in direct instruction. Pullman and Parsegian (1990) support this conclusion by noting that most educators are unprepared to use computer applications in any capacity much less in the classroom for instruction. Kozma and Johnston (1991) suggest that "on any one campus the [faculty who are] pioneers [in educational uses of technology] number less than five percent of the faculty" (p. 10). Clearly educators have not yet realized the potential of this teaching-learning tool.

There is consensus that the underutilization of technology as a tool in the educational process is widespread. Technology availability is increasing at a rate significantly greater

than its incorporation into the classroom. While some educators are using technology for management purposes such as writing tests and computing grades, relatively few are using the power of technology to teach. Most commentators on educational technology would agree that educators cannot use a tool they have not mastered themselves. Significant barriers exist to such mastery. These include lack of computer knowledge, lack of time and lack of training and help (Brady, 1991). Current inservice training practices have not provided sufficient time to master computer skills (Bitter and Yohe, 1989).

The vast majority of teachers have experienced little or no computer training (Glenn and Carrier, 1989). For many educators, technology training opportunities were unavailable in the preservice teaching curriculum when they completed their undergraduate training. Educators entered education without this valuable tool in their repertoire. Training has therefore become a key factor in keeping faculty in touch with technology (Farrente, Hayman, Carlson and Phillips, 1988). Until this situation changes, technology will be education's most powerful but underutilized resource.

Therein lies the challenge facing those involved in training in instructional technology. While faculty are moving into the Information Age, the movement is slow, sporadic and often met with resistance. Those responsible for providing faculty with technology skills must examine the issues that slow the process and explore strategies to overcome the roadblocks.

It is relatively easy to acquire equipment. It is easy to demonstrate to faculty its application as a teaching tool. Budgets permitting, it is easy to install the equipment on faculty desks. The challenge to those charged with connecting faculty to this equipment lies

in motivating educators to make use of this powerful teaching tool. Assisting the educator in effectively using the technology as a tool in their *own* classrooms is the goal. Closing the gap between technology availability and faculty ownership of it is the function of the instructional technology transfer center.

The Role of the Technology Transfer Center

Centers charged with training faculty in technology have as their overriding goal the transfer of technologies that can be used to enhance and improve the teaching-learning process. They are responsible for connecting the teacher to the technology that can support their professional efforts. They are the bridge across the technological gap. Centers must act as a professional resource providing both formal and informal channels for technology education. Strategies must be developed to help the teacher reach out to technology and embrace it as a powerful and effective tool.

The eleven centers contributing to this paper have each tried a variety of strategies in their efforts to assist their faculty in implementing technology within the curriculum. Included herein is a collection of their most successful approaches. Each of the centers differs in terms of the administrative structure in which it functions, the number of personnel assigned to it and the budget allocations that support it. They are similar in their IBM hardware and software. Despite the differing physical and financial parameters of these centers, all have made inroads into constructing an effective bridge between faculty and technology.

Technology Transfer Strategies

The following strategies range from traditional to innovative. All are effective, allowing for variations in the training parameters of the institution. The strategies are arranged according to their target audience. Group strategies target groups ranging from faculty teams of three or four to larger departmental and workshop groups. Individual strategies include those in which the centers have engaged to provide one-to-one support for faculty's use of technology. Campus strategies are those which impact all faculty on the campus and those which attempt to foster a positive image toward educational technology.

Whichever strategies are currently being used by your institution, the writer and ITTC Directors hope that you will find the following approaches useful, thought provoking, and effective when applied in your environment.

Group Strategies

Needs Assessment

A preliminary step to designing effective strategies is designing, distributing and analyzing a needs assessment. An assessment instrument can provide a training center with valuable information as to where to start. Faculty literacy can be determined and specific needs and interests can be identified. Often, an assessment prioritizes training efforts by highlighting the software and/or technology skills seen as most critical by the target audience.

One center whose faculty was relatively inexperienced, added a brief workshop description to the assessment instrument. This provided faculty with an annotated workshop

list that helped them to identify the software they would be interested in learning even if they were unfamiliar with computer applications in general.

Workshops

All of the centers provide teacher training via a workshop format. Workshops vary as to length and topics but there are several consistent characteristics. Each workshop typically covers only one topic, usually a specific software package. A workshop description and list of objectives are provided to the faculty with the workshop registration. The description details what computer experience, if any, is necessary as an entry skill and the objectives outline what will be gained as a result of the workshop. This assists faculty members in determining if the workshop is appropriate for them.

While the time allocated for a workshop varies with the complexity of the software, a workshop average is eight hours. Handouts are usually provided to the participants. While the format may vary, the handouts usually cover the key points presented in the workshop. This helps the participants concentrate on the presentation rather than on trying to write it all down.

Workshops are typically presented by center staff or by other faculty members. Often, presentation by faculty to faculty has, as a fringe benefit, the subtle message that technology is usable by every educator, not just educational technologists.

The most frequently mentioned difficulty with this strategy is finding a time suitable for the varied schedules of faculty members. Some centers have provided evening and weekend workshops to accommodate the faculty. Most try to offer workshops at different

times and days each term in order to accommodate as many schedules as possible during the school year.

Mini-Workshops

A variation of the workshop format is the mini-workshop. This presentation is usually not more that two hours long and covers a very specific topic. Examples of mini-workshops include teaching a department how to use a laser disc, showing a test-generating software package to a group of teachers, demonstrating how to use a display palette, or conducting a departmental software evaluation for a new subject-specific package received by the center. Mini-workshops are more informal, have less elaborate hand-outs and are usually facilitated by center staff. The objective is typically to demonstrate a single piece of hardware or software to a group that has expressed interest.

Vendor Presentations

As a variation of the workshop and mini-workshop format, a presentation by software companies has proven effective at some centers. Software companies often provide public relations personnel that will present at your institution to interested faculty. Vendors are, of course, interested in promoting their product. However, centers can take advantage of that interest by allowing vendors to demonstrate products without cost or obligation to faculty. Usually these demonstrations are flashy and show the best of the product's capabilities and at the very least, engender interest and enthusiasm for technology.

Departmental Projects

Many centers focus on the normal divisions within their institution in order to find audiences with similar interests. Academic departments are targeted for on-site

presentations, special projects and technology centered meetings. One of the most successful strategies is the use of a "rolling" computer demonstration unit. This computer and peripherals on a cart can be brought to a department meeting for demonstration and on-site presentation. Other centers, in an attempt to familiarize faculty with the facilities available in the center, invite a department to hold one its meetings at the center. As a part of the meeting, the center's resources are presented and demonstrated.

In addition to departmental meetings, a center may solicit members of a particular department to engage in a technology project that will benefit the entire department. The project team may be provided release time or other compensation for their efforts, but the goal is to use technology to enhance departmental curriculum or facilitate departmental tasks.

Faculty Teams

A variation on departmental technology projects is the interdepartmental faculty team. Centers that work use this strategy identify and help group faculty members interested in applying technology across curriculum lines. Such teams often consist of one or more content specialists, an individual interested in specific software and another interested in instructional design. The variations are as unique as the applications of technology. Such teams can cross departmental lines, build interdisciplinary teams and effectively apply technology within the confines of a single interdepartmental project.

Modeling

As an outgrowth of departmental and faculty teams, centers can use the products created to encourage other faculty members to become interested in technology. The faculty team that successfully uses technology in curriculum becomes a model for their peers.

Centers use a variety of techniques to publicize the models. These include an open house at the center to share the products, presentations by the team to other departments and forums to which other institutions may be invited.

Individual Strategies

Independent Study

Not all faculty can attend scheduled workshops. Yet they need formal instruction to effectively use technology. An alternative explored by some of the centers is the establishment of workshops using an independent learning format. These workshops use prepared curriculum, video tapes, cassettes, software tutorials and/or materials prepared for this purpose by the center staff. Regardless of the source of the materials, the workshop provides a training opportunity that will accommodate any faculty member's schedule. While they may be somewhat less effective than traditional workshops, independent study can answer the needs of those faculty who cannot receive training otherwise.

Individual Projects

A number of centers provide vehicles to support the efforts of individual faculty members interested in integrating technology into their courses. The most prevalent of these vehicles is the curriculum application project. Such projects provide a combination of one or more of the following incentives: release time, hardware loaners, professional development awards, and monetary compensation. Examples of such projects include release time to explore the use of telecommunications in science curriculum, the assignment of a computer to a faculty member who has developed a multimedia application, and extra compensation for

a faculty member who has restructured basic skills curriculum around the use of technology. Such projects use a variety of formats including campus mini-grants, technology practicums, technology internships and computers in curriculum projects.

Mentoring and Faculty Support

All centers support faculty through one-on-one contact. Some centers have open lab hours during which faculty are invited to come to the center with their questions and technology problems. Other centers send staff to faculty offices to assist. All centers concur that the integration of technology into curriculum demands that personal effort and contact be provided as the faculty member develops the skills necessary to use technology.

Once a faculty member becomes proficient, a center may recruit that individual to become a technology mentor within his or her department. The mentor assists the center in supporting faculty by answering questions within the department, helping when possible, disseminating information from the center and acting as a liaison between the department and the center.

Loans of Hardware and Software

Centers often loan hardware and/or software to faculty for use in their office or during academic breaks. The centers agree that placing the technology in the hands of the faculty in a convenient manner is a critical factor in its utilization. Some centers ask that the faculty member teach a workshop in the technology learned as a result of the loan. Some centers loan hardware and software for presentations and special projects only. Others allow loans only after a sequence of technology workshops has been completed. Still another loans laptops as a part of a semester long literacy workshop. Regardless of the conditions, a

generous loaner policy encourages experimentation and familiarity with technology.

Campus Strategies

Newsletters

Most centers sponsor newsletters or write columns for campus newsletters to keep faculty informed of the center's activities. These efforts help the centers stay in communication with faculty. They provide a forum for informing the faculty of newly acquired hardware and software. They help publicize workshops, faculty projects and other activities. Newsletters help a center keep a high profile on the campus in order to maintain faculty awareness of the services the center provides.

Open House

Some centers regularly sponsor an open house that allows the faculty members to visit the center and become acquainted with the services provided. Refreshments are usually served and the center's staff is available to answer questions. This informal, social orientation to a technology center helps overcome resistance to technology while at the same time acquainting the faculty with the center's activities. It also provides center staff with the opportunity to build relationships with faculty outside of the workshop environment.

Presentations

Most of the centers make presentations to the faculty during a term's opening session, for new employee orientation or whenever the campus provides the opportunity. As a service organization on the campus, the centers use faculty meetings to communicate their interest in supporting faculty in the use of technology. Presentations range from brief

orientations to center services to elaborate multimedia productions prepared by the center's staff. Faculty typically responds positively to the possibilities for professional growth featured in and demonstrated by such presentations.

Computer Fair

Sponsoring and organizing an on-campus computer fair to acquaint faculty with hardware and software is a campus service orchestrated by some of the centers. Vendors and their representatives are contacted and invited to set up displays of their products. The center and its services are typically on display as well. Refreshments are served or sold by a campus charitable group and faculty members visit the fair during their free time. This is an effective alternative when budgets prohibit travel to the conventions in which vendors typically exhibit. While a more complex effort towards technology awareness, the computer fair can easily become an annual campus event anticipated by faculty.

Steering Committee

Most centers have an advisory or steering committee. Faculty involvement on such a committee helps foster faculty commitment to technology and the work of the center. Steering committees can also assist in making decisions on competitive individual projects when budgets can fund only a few. They can also help keep the center attuned to the interests and needs of the faculty they represent.

Technology Solutions

Centers often function as a clearing house of information for vendors. Matching the needs of faculty with vendors products is a significant center service. Some centers will purchase equipment for faculty for use within the center. An example of such equipment is

the addition of a scanner so that faculty can convert older typed material into word processing documents. When acquisition is not possible, vendor information is forwarded to the appropriate faculty or department. Regardless of the method, matching faculty needs and appropriate technology solutions to those needs is an important activity in all of the centers.

Conclusion

Each of the technology transfer centers contributing to this paper has assisted its faculty in the integration of technology into their curriculum. All of the strategies presented here have proven successful. Each strategy, when applied by a particular center, changes in a kaleidoscope of variations appropriate to the unique campus environments. Yet each variation builds another structure that bridges the gap between teachers and their technology tools.

It is hoped that some of the strategies will be applicable to your institution's environment. You too will vary the strategies and evolve new ones of your own. Whatever methods you choose or create, each strategy applied assists faculty in developing effective techniques for teaching with technology. Each strategy used ultimately enhances the teaching-learning process. For centers charged with empowering educators with technology, the implementation of the strategies outlined in this paper provide an opportunity to be proactive in helping move education into the Information Age.

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APPENDIX P

TRAINING STRATEGIES SUMMARY

Summary of Training Strategies Used at Primary and Secondary Campuses

Training Strategy	Secondary	Primary
Needs Assessment	Y	Y
Workshops	Y	Y
Mini-Workshops	Y	N
Vendor Presentations	Y	N
Departmental Projects	Y	Y
Faculty Teams	Y	Y
Modeling	Y	Y
Independent Study	Y	N
Individual Projects	Y	Y
Mentoring	N	Y
Loans	Y	Y
Newsletters	Y	N
Open House	N	Y
Presentations	Y	Y
Computer Fair	N	N
Steering Committee	N	Y
Technology Solutions	Y	Y

APPENDIX Q

EVALUATION SUMMARY

Summary of Evaluation Instrument

Self Assesment of Computer Literacy Level:

Literacy Self Assessment	Non-User	Use Some Applications	Regularly Use Computer	Experienced User
Before Workshop	2	3	3	0
After Workshop	0	5	3	0

Number of faculty responding: 8

Responses to workshop outcomes:

As a result of my workshop experiences, I feel that:	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree (No Response)
I will use the computer in my classroom to help me teach.	4	14	7	0	0 (3)
I will create lessons so that the students will use the computer.	6	14	4	0	0 (4)
I will explore the uses of multimedia for my classes.	5	12	2	2	0 (7)
I will explore the educational application of and try to use a video disc in my classes.	5	9	3	4	0 (7)
I will explore the educational application of and try to use telecommunications in my classes.	5	3	4	7	0 (9)
I will increase assignments requiring the use of student labs in teaching my courses.	8	6	4	3	0 (7)

Technology is a useful tool in the teaching-learning process.	14	8	0	0	0 (6)
Both faculty and students should possess and use technology skills.	8	7	0	3	0 (10)
I will use the computer for administrative tasks.	8	14	0	2	0 (4)
I will use the computer for classroom management tasks.	7	11	3	2	0 (5)
I am more accepting of technology as a teaching tool.	11	7	4	0	0 (6)

Sample objective comments:

Question: What role do you see technology playing in the presentation of your classes over the next year?

Comments: *If classroom computer labs are ready in the fall, I hope to bring my classes to a lab for 1 or 2 assignments each term.*

An ever increasing role--particularly in the areas of independent study in the math/science tutoring area.

It will become a daily part of teaching. It will be an important tool.

A major role: A large portion of class time is devoted to working on computers for word processing.

I will continue to use occasional computer simulations in my physics classes and may start to use excerpts from compact disks.

Increase use of multimedia and video disc presentations.

More assignments using computers and video discs.

Considerable. History classes will have self tutorials to aid students.

Question: What do you see as the greatest contribution that technology can make in assisting you in teaching your subject?

Comments: *Helping students in academic trouble because they are underprepared.*

To help find out where a student is in terms of subject matter and practice on materials covered.

Management of my classes

Can simplify my teaching and make it more effective.

Word processing allows my students to write and revise with greater ease.

Video materials can augment classroom demonstration of physics principles. Simulation permit testing the subject at a higher level of sophistication.

Increase effectiveness of teaching/learning. Make preparation and organization easier.

Give students alternative ways to learn.

Reinforce, tutor, retain knowledge and retain students.

Clarification and reinforcement of the subject.

Question: What are the greatest obstacles to your use of technology in the teaching/learning process.

Comments: *Conservation of time*

Ease of use for students. Time to work on new projects.

Very little time available for evaluating or debugging programs.

Lack of state-of-the-art hardware and software to use.

Actually learning to use it adequately. I think some of the instruction is a bit too rushed, not allowing for sufficient personal practice.

Effort involved in locating and/or preparing materials to be used.

Classes are too large.

Need specific information and instruction on software in my areas, not just general computer applications.

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